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ABSTRACT

The Living with Asthma Program is designed to teach asthma self-management skills to children (ages 8-12) with asthma and to give their parents the knowledge and behavior modification skills to help their children take over responsibility for managing the condition. Both groups receive training in problem solving and in ways to improve family interactions that relate to the management of the child's asthma. The children participate in eight sessions which utilize a variety of teaching techniques, including games, illustrated notebooks, demonstration materials, situation cards, Marvin Marvelous stories featuring asthma-related plot lines, Dr. Q's newsletters with blanks to be filled in by the children, and opportunities for lecture and discussion. Topics of the sessions are: (1) basic asthma information; (2) medications; (3) becoming good observers and early warning signs; (4) early warning signs and remembering; (5) triggers; (6) plans for helping your asthma; (7) emergency situations; and (8) review and farewell. The manual provides an overall leader's guide plus materials specifically designed for teaching the topics covered in each session, including a summary of goals and resources, a session activity list, extensive teaching notes and background material, and handouts to be copied and distributed to participants. (VW)

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Living with Asthma

Part 2. Manual for Teaching Children The Self-Management of Asthma

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LEADER'S GUIDE FOR **CHILDREN'S** SESSION

Philosophy

The goal of the Living with Asthma self-management program is to teach children with asthma the skills necessary to deal independently with their health problem and to assume responsibility for the daily management of the condition. At the same time, their parents are learning that they can safely relinquish responsibility for managing asthma to their children. The level of responsibility that a child is able to assume depends on the child's age and maturity level. Parents often underestimate the capabilities of a child with a chronic illness. However, even relatively young children are capable of practicing some self-management skills.

Once the children learn basic information about asthma and how it is managed, they can become more independent. Consistent practice of self-management skills leads to better daily control of the asthma. Thus, the ultimate outcome of mastering self-management skills is a happier, healthier child with fewer asthma-related disruptions in the life of the child and the family.

The basic factual information about asthma physiology, attack management, and how medication is used to control asthma symptoms is presented in the first two sessions. Sessions 3 and 4 introduce the concepts of early warning signs and reinforce attack management. Sessions 5 and 6 deal with recognizing and avoiding triggers. Session 7 encourages the children to talk about their feelings as they relate to asthma. Session 8 summarizes and reviews the entire course content. Throughout, main ideas are taught and reinforced by using a variety of activities. These are intended to be fun for the children at the same time that they are informative. A choice of activities and materials is offered within each session so that the group leader may tailor the agenda to the age, interests, and participation level of the children. Stimulating discussion and building activities around the Living with Asthma materials is the responsibility of the group leader. It is important to use and present all the factual material that is included with each session; however, creativity on the part of the group leader is encouraged.

Living with Asthma was developed as an educational program for small numbers of participants. It belongs to the members and provides an opportunity for them to share with each other and the group leader what it's really like to have, and to live with, asthma. The role of the group leader is to guide and stimulate class discussion, not to tell the children what to do. The sessions should be informal, relaxed, relatively unstructured, and fun for the leader and the participants. The children should be given lots of opportunity to share ideas, talk about information presented, express their feelings, and relate their own asthma experiences. In this way, group members help each other learn about asthma and reinforce the concepts of self-management presented by the group leader. The children may also invite siblings and friends to attend the sessions, if they wish, to help significant "others" learn more about asthma.

Organization of the Session Materials

Each of the eight sessions is arranged in the same order:

- Title page.
- Resources needed.
- Goals.
- Activities.
- Teaching notes for activities.
- Leader background material
- Handouts.

For ease in locating material, the leader may add tabbed divider pages to distinguish the eight sessions. The subdivisions of leader background material and handouts in each session may be color coded by using a magic marker to color the edge of all handout pages and a different colored marker to do the edges of the background material. Be sure that the colors will *not* show black when they are duplicated.

Special Features and Teaching Devices

Instructional activities and accompanying teaching notes are provided only as suggestions. They should be used at the leader's discretion after determining the developmental and educational levels of the children in a particular group. Too wide an age disparity may necessitate splitting the group into two more age-homogeneous levels.

Similarly, a script is offered as an idea of a way to clearly explain concepts or information, but the leader may prefer a more personal style of presentation. The script is intended merely as a crutch to get discussion started. The leader may use his or her own words and may come up with something different. Using some of the suggested phrases and leading questions may help stimulate discussion but at all times conversation should be tailored to the age and attention level of participants.

Interaction with group members may suggest different approaches, questions, and discussion starters than those that are suggested. These may be even better than those presented in the manual. The leader should feel free to be original and to respond to the needs of the group. Remember that what works for one group may not work for another.

A variety of special features has been developed for Living with Asthma. Although suggestions for their use accompany the teaching notes for each session, the following list provides a preview for the discussion leader:

- *Demonstration materials* (session 1) are used to illustrate concepts of lung physiology. Allowing the children to handle and play with these materials shows them how the lungs work and reinforces the information. Instructions for constructing each are found in session 1. The demonstration materials include:
  1. A lung board that graphically represents the physiology of the lung.
  2. Cardboard rolls stuffed with cotton or tied with string to simulate the breathing tubes.
  3. Balloons to demonstrate how air moves into and out of the lung.
  4. Plastic tubes or straws tied with string to illustrate bronchoconstriction.
- *Booklets illustrate* lung physiology before and during an asthma attack (session 1), early warning signs (session 3), and asthma triggers (session 5). The

booklets can be used for younger children to color; older children may use them for reference. Both age groups use the booklets as the basis for discussion.

- *Activity games* are useful to get the group participants moving around and to break up long periods of sitting and listening. Air Movement and the Name Game are located in session 1; Take a Step may be found in sessions 2, 3, and 7; and the Observer Game may be found in session 3.
- *Marvin Marvelous* (sessions 2, 3, 4, and 6) is a character in short stories featuring asthma-related plot lines. Younger children enjoy being read to during a restful "story time," but older children prefer to read them themselves; it may stimulate interest to assign parts and have the stories read as a minidrama. After each story, two questions should be asked: How do you feel about the story or about what happened in the story? Has a similar situation happened to you? The stories provide an opportunity to discuss feelings and to apply detective skills to real situations.
- *Marvingrams* (session 6) are a highlight for most class participants. They are personalized messages that reinforce asthma management concepts. Try to arrange for a "delivery" person to hand deliver them to each child. Each should be read aloud to the group and discussed.
- *The Marvin Marvelous board game* is used in sessions 7 and 8 to review all topics. Younger children may need the help of older participants in reading the cards but most children are able to play board games at an early age.
- *Dr. Q's Newsletters* (session 4 and 7) are used to stimulate discussion and to reinforce teaching points covered in the script. Each newsletter has blanks to be filled in by the children. As you read them to the group, they can be colored by younger children. Older participants can read them aloud.
- *Quick quizzes* (sessions 4 and 6) reinforce concepts about asthma medicines, asthma physiology, early warning signs, and attack management learned in earlier sessions. They are not meant to be graded like a test in school but merely to review previously learned information. They also help the discussion leader recognize teaching points that need more reinforcing.
- *Situation cards* are distributed in sessions 4, 5, and 7 to group members who think about how they would solve the problems and relate their solutions to the others. Older children may enjoy role playing the situations. The situations allow the children a time and safe place to rehearse potential problems that they may encounter with their asthma. Instructions are located in the leader background material for session 4.
- *Beef and bug discussion* (session 5) helps the children to express their feelings about asthma.
- *Asthma Report Forms* are explained to participants in session 2 and distributed at each subsequent session. They should be filled out during the week and discussed at the following session. Their purpose is to help the child recognize and remember the events that surround an asthma attack. Discussing these forms provides a good opportunity for sharing. Ultimately, the child should be able to identify triggers and early warning signs and take appropriate actions.

- *Assessment quizzes* (session 1 and 8) are optional evaluation tools that may be given at the beginning and end of the course to measure how much the children have learned about asthma self-management.

The lung board and the Marvin Marvelous gameboard are each supplied as black and white, 8½ × 11-inch masters included in the leader background material. They can be duplicated and pieced together to form poster-sized displays. However, should these key instructional tools be lost or damaged, the black and white masters can serve as a backup.

To preserve the masters, they should be used only for duplication and returned to the manual. The copies can then be trimmed and pasted onto a large piece of posterboard. Children can then color the illustrations. Specific instructions for using these masters are included in the leader background section of sessions 1 and 7.

Setting and Equipment

Any room can be used that is large enough to accommodate the group and a portable chalkboard or flipchart. There should be space for the children to move around as they play activity games and for them to lie down on the floor on mats to practice relaxation or belly breathing. Chairs are not necessary; children love to sit on the floor. Keep the setting informal.

If appropriate for the economic level of the group, at the first session ask each child to bring to each meeting a looseleaf binder or folder for handouts, crayons, a pencil, and an exercise mat or large towel. Otherwise these supplies should be provided by the leader. Special equipment required for the activities of particular sessions are listed in the resources section for that session.

Getting Ready to Teach

The group leader should be thoroughly familiar with the content of each session before the class assembles. Consult the resource list well before each session to be sure all supplies are on hand. The leader background materials have been selected from appropriate sessions in the parents' manual. All children's session background material and related background material from the adult sessions should be read in advance. If the leader knows the ages of participants before the first meeting, tentative lesson plans can be formulated that are age-appropriate. Enough handouts for each group member must be duplicated. Special instructional materials such as the lung board and the breathing tubes used in session 1 must be fabricated in advance. Similarly, the Marvin Marvelous game must be prepared before session 7. Anticipate the needs and be prepared. It's better to have extra supplies than not enough.

Starting the Sessions

At the first session, parents and children should gather in one place until all participants have arrived. A few moments should be allowed for class members to mingle and meet one another and for the children to feel comfortable about separating from their parents. This is not usually a concern for older children. When it seems appropriate, the parents can leave with their group leader.

For subsequent sessions, the children should know where to come for their asthma self-management group. The group leader should be able to greet each child by name after the first session. After all session activities have been completed at the final, eighth, session, the children can join the parents for a party.

Following the Teaching Notes

Each point that is outlined in the session guides is important. Exactly *when* they are made is not. During each session the program leader constantly makes choices about the comprehension level and attention span of the group and what would be the best thing for them to do next. Each group is different and requires slightly different choices about the way in which the group works. Some groups learn quickly and want lots of information and details early in the session, then want to play for the reminder of the session. Other groups work more slowly and need many short breaks during the whole session. The leader sets the tone of the group and should be ready to move on when the group needs a change in activity. For each session a variety of activities is offered that review, repeat, and reinforce the basic messages and concepts. All the program materials need not be used. Some groups learn well through lecture and discussion, others do better using the activities. Try to keep the sessions informal; avoid lecturing or telling participants what to do.

At discussion times it is helpful to draw children out and to let them relate their own experiences and viewpoints on the topics suggested. In this way, the children can feel it is their group and can share coping mechanisms with each other. Discussion periods also give the leader an opportunity to determine how much each child already knows about asthma management and what misconceptions may exist in their thinking.

The teaching notes for each session are organized with main headings and explanatory notes to the group leader on the left-hand side of the page. The script is placed to the right of the explanatory material. Inserted at appropriate places in the script are instructions to the class from the leader in boxed capital letters. The script and boxed instructions should be considered as suggestions only; it is not necessary to follow them verbatim. However, summary statements and major messages are included to aid the leader in identifying important ideas to get across.

Again, the time when they get major self-management messages is not important. That they do get all the self-management messages is vital. That they have fun and feel successful will contribute to a successful outcome—improved self-management for each participant.

Handouts are at the end of each session. The pages are coded by session and page number. For example, the second handout for session 1 is labeled Children's Handout 1-2, p.1; the third handout for session 6 is labeled Children's Handout 6- 3, p.1.

Marvin Marvelous stories are located in the Leader Background Material. However, the stories may be duplicated and used as optional handouts for the children to read and take home. In the original Living with Asthma program, the stories were read to the children's groups and then discussed.

Participation

Try to help the group participation be a positive, enjoyable experience for each child. Allow the children the opportunity to feel successful at learning how to care for their asthma at the same time they are having fun with other children. Discus-

sions provide a good opportunity for the group leader to learn from the children and for group participants to learn from each other.

Encourage the children to participate in all activities that are planned for the group. If the leader is open and positive, most children will try new activities. If a child refuses, allow him/her to decline participation in that particular activity, but do not give the child any attention about the decision or during the game. In a little while, invite the child to join again, but do not focus much attention on the child. Again be positive and open.

Group Discipline

As much as possible:

1. Pay positive attention to desired behavior.
2. Ignore undesired behavior, unless it is destructive.
3. Keep the group occupied, changing from one activity to another when interest is waning and the kids get restless and start to squirm and fidget. When this starts, change activities as soon as possible. Try a more physical form of learning or just take a total break and go outside where everyone can run around together. Running around together or playing games together can be a good way of practicing what you are talking about. When kids get tired or wheezy, do they sit and rest? Arrange to have refreshments or water available after the break time, so they can practice having something to drink when their breathing becomes difficult.

Refreshments

Serving juice and cookies breaks up the activities and emphasizes the importance of drinking plenty of liquids. Refreshments also help steady a group after a more boisterous activity such as the Air Movement game.

Cookies, pretzels, or other goodies and juice can be used as incentives for a final effort in learning or completing a task at hand. Ask different children each time to help carry the snack and any supplies that are needed. Encouraging the children to drink juice reinforces the management point of the benefit of liquids. Apple juice is a good choice. It may be served straight from the container without being chilled and is still appealing.

Interesting conversations and problem solving sometimes take place during refreshment time because of food allergies. Is anyone allergic to the chocolate or nuts in the cookies? After learning about food allergies of group participants, try to avoid ingredients that most children are allergic to, but do not always feel that each child has to be accommodated every time. Discuss what should be done in such situations; what are the options?

Choose the break time according to the needs of the children and when it seems appropriate to the flow of the session.

Information About Asthma for Children

Below are listed many of the concepts that are taught to the children about their asthma. The basic concept is *italicized.* A variety of methods is used to help children learn by repeating and reinforcing these basic ideas. For some concepts, easy-to-remember jingles are taught. The jingles are at the end of each section and have quotation marks around them. It does not matter whether the children remember

the jingle or the exact wording of the concept, but they should be able to explain the meaning of the concept in their own words.

Nature of Asthma

The child should know that *an asthma attack or wheezing is caused by three changes that happen in the lungs.* These three changes are:

1. *Bronchoconstriction*—the muscles wrapped around the bronchial tubes tighten.
2. *Edema*—the lining of the bronchial tubes swells.
3. *Extra mucus*—extra mucus is made in the bronchial tubes, sometimes forming plugs.

It gets hard to breathe because *these changes all make the airways in the bronchial tubes smaller.* Less air can move in and out of these smaller airways until the attack is over and the bronchial tubes return to their usual size.

Medicine

Each child should know the *names of the medicine that he/she takes and the times to take it.*

If an inhaler or spray medicine is used, the child should know how to use it and that it should *not be used more than three times in 24 hours without checking with the doctor.*

If the child takes regular medicine every day, he/she should know it is important to take it *every time, on time. On time* means not more than ½ hour earlier or later than the doctor has prescribed.

"Take it and take it on time."

Asthma Triggers

These make a person with asthma get tight, wheeze, or cough from asthma. The child should be able to *name his/her triggers.* The child should know to avoid his/her triggers as much as possible.

"To keep your vigor, avoid your trigger."

Early Warning Signs

These describe how a person with asthma feels or what happens in the body before an asthma attack begins.

The child should be able to *name his or her early warning signs.* The child should know to *follow asthma attack management steps when he/she notices an early warning sign.*

"To control an attack
Keep this in mind;
Act when you notice
An Early Sign."

Asthma Attack Management

The child should know to follow these steps during an asthma attack or when he/she notices an early warning sign.

1. *Rest and relax*—the child should know how to get into a relaxed position.

2. *Drink liquid*—warm is best.
3. *Tell an adult*, if appropriate—may depend upon the age of the child or the degree of severity of the attack, or the place of the attack.
4. *Take medicine*, if prescribed for attacks.

"Think, drink,
Be calm, tell Mom.
Maybe a med, maybe to bed."

CHILDREN'S SESSION ONE

BASIC ASTHMA INFORMATION

GOALS

- To introduce the children to each other and the leader
- To introduce the children to the purpose of the group
- To explain basic lung physiology and introduce asthma self-management

RESOURCES

Leader Background Material:

- How to Construct the Lung Board
- Summary of Asthma Attack Management and Control
- Attack Management
- Common Questions about Asthma and Asthma Management
- How to Practice Belly Breathing
- Labeled Diagrams of Lung Structures

Supplies and Equipment:

- Name tags and pencils or marking pens
- Folders or binders to hold handouts (optional)
- Pencils and crayons for participants
- Copies of lung diagrams made into posters, slides, or overhead transparencies
- Lung Board
- Blackboard and chalk, or a flipchart and marking pens
- If using slides, a slide projector and screen
- If using overhead transparencies, an overhead projector and screen
- If using posters, an easel, the chalk tray of a blackboard, or pushpins and a bulletin board or cork board
- Straws, balloons, string or yarn (enough for each child)
- Several long cardboard tubes from paper towel rolls
- Wads of absorbent cotton
- Sheep or cow lung from butcher (optional)

Handouts:

- Diagram #1: The Lungs
- Diagram #2: Alveoli, Bronchioles, Bronchoconstriction
- Diagram #3: Edema, Mucus, and Bronchoconstriction
- Children's Interview Form
- Home Assignment: Medications

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Introduction	Name Game	
Purpose of the Course	Discussion	
Anatomy and Lung Functions	Location of Lungs and Rib Cage Short Lecture Lung Board Lung Diagrams Air Movement Game	Lung Board Lung Diagrams Air Movement Game Straws Balloons Cardboard Tubes Animal Lung Children's Interview
Attack Management	Discussion	
Attack Prevention	Discussion	
Socialization		
Asthma Drug Names	Homework Assignment	

CHILDREN'S SESSION ONE

BASIC ASTHMA INFORMATION—TEACHING NOTES

Introduction

Hi! Welcome to the asthma self-management program. My name is _____ and I'm going to be your group leader for the next 8 weeks. To make it easier for me to know you, write your name on these name tags and put them on your shirts.

- **Hand out name tags and magic markers.**
- **Allow time for them to complete the task.**

Now we're going to play the 'Name Game.' Starting with you (POINT TO ONE CHILD), let's go around the circle and tell everyone your name. Can anyone remember everyone's name? I bet you can remember the names of the people on each side of you.

- **Have each person repeat everyone's name.**
- **If no one can, do it yourself first; then ask again for volunteers.**
- **Keep playing until everyone seems to know everyone else.**

O.K. Let's make it really hard. Put your hand over your name tag. Now who can name everyone?

- **Allow a few children to name everyone in the group.**

Purpose of the Course

Concepts to encourage:

Learning about asthma

How to take care of their asthma

To have fun together

Any specific goals related to self-management

Now that we know each other a little better, who knows why we are meeting together?

- **Encourage all responses that touch on asthma self-management or responsibility by nodding, smiling, agreeing, and/or using comments such as "That's right" or "Good."**
- **Sum up the best of their statements by writing them on the board or flipchart.**
- **Add anything they may not have mentioned.**

Does anyone have any questions about why we're here and what we're going to do?

- **If there are questions, ask if anyone in the group can help with an answer.**
- **If not, provide a simple answer yourself.**

Anatomy and Lung Functions

Let's take a deep breath. Everyone has two lungs to help them breathe.

- **Use visuals to help children understand lung anatomy.**
- **Hand out lung diagram #1, or point to large diagram on board or to lung board.**
- **Write the word "lungs" on the board or flipchart.**

Concepts to teach:

Location of lungs

Have the children write "lungs" in big letters at the bottom of the handout or color in the word if it is already labeled.

Our lungs are protected by our *rib cages,* which are a cage of bones. See if you can feel the bottom of your rib cage, the last rib is slightly above your waist. Now try to feel your *collarbone,* that is the top most part of your rib cage.

Stop and help the kids feel the limits of their rib cage.

Write italicized words on the board.

Your lungs are inside this protective cage of bones. This cage helps keep the lungs from being damaged.

Take a deep breath in, and then let it out. Who can tell me what happens to your rib cage? That's right, it moves. It moves as your lungs get bigger as the air fills them up. In some ways your lungs are like balloons. They get bigger as they fill up when the air is inside them, and get smaller when the air goes out.

Air

Does anyone know what is in the air that we breathe in? Air is a mixture of things. The main thing in air is *oxygen,* which all parts of our bodies need to live.

This may be the appropriate time to discuss pollution, smoking, etc. Choice of topics will depend upon the children's interest and apparent concentration.

Sometimes we breathe in things that aren't so good for us. Who knows what these might be?

What we breathe out (the fancy name is *exhale)* is air with the oxygen used up and a gas called *carbon dioxide* in it.

Be aware that many children do not have a concept of gas and may think of it like gas in a car. How much you explain and exactly how you explain the details will depend upon the group, their desire for specifics, and your comfort level with the explanations. Do not give the group more than they are ready for.

Let's follow the same path that air takes from outside your body into your lungs. When you breathe in, the air first is pulled into your nose where it is warmed and cleaned by tiny hairs and mucus. *Mucus* is the sticky stuff in your nose and in other parts of your body. It is what you cough up sometimes. The tiny hairs are called *cilia* and act either like a screen to keep out dirt, or sometimes they act like a moving carpet to sweep out any dirt that got through the screen.

Point to appropriate structures on diagram or lung board.

Anatomy of the lungs

From your nose or mouth, the cleaner air goes down your windpipe (or *trachea* for the fancy name), into the *bronchial tubes* in the lungs. These two big tubes branch into more tubes that get smaller and smaller as they go to the tips of the lungs. The smallest tubes are called *bronchioles.* These are the tiny, tiny tubes that go to the very tips of your lungs. On the ends of these bronchioles are tiny air sacs, called *alveoli.*

Write italicized words on board and have children label their diagrams, *OR* place circle 1 on lung board.

Turn your picture upside down. Now you can see why all the tubes in the lungs put together are called the *broncial tree* because they look like an upside down tree.

Asthma

When you have asthma, there are three things that happen to this breathing system. These three things are what makes it harder for you to get air in and out of your lungs during asthma.

In our meetings, I will talk about having an *asthma attack* or an *asthma episode.* What I mean by that is any time that you have trouble breathing or start to cough from asthma. It could mean that you get tight and have to sit down and rest.

Asthma episodes may range from slight trouble breathing because your chest feels a little tight all the way to lots of wheezing. When you have a bad asthma episode, you might have to go to the doctor or to the emergency room.

When you do have an attack or episode, several different things can happen inside your lungs.

Hand out lung diagram 2 *OR* change to circle 2 on lung board.

First, remember the bronchial tubes and bronchioles that carry the air in and out of your lungs? Well, there are thin *muscles* wrapped around these tubes. When you are around something that triggers your asthma, these muscles tighten up. That makes the pathway for air smaller than it was before. The fancy word for this narrowing of the airways is *bronchoconstriction.* Some air still gets in, but not as much as before.

Point to bronchoconstriction on diagram *OR* change lung board to circles 3 and 4.

The second thing that may happen during an attack is that the bronchial tubes and bronchioles start making too much mucus.

Hand out lung diagram 3; point to mucus secretion *OR* move lung board to circle 5.

The airways get clogged with all this extra mucus. This means less room for air. Some air can still get through, though.

Point to edema on lung diagram 3 *OR* change lung board to circle 6.

And the third thing that may happen is that the insides of the bronchioles and bronchial tubes swell and make the pathways for air even smaller. The fancy word for swelling is *edema.*

Change lung board to circle 7.

So you can see why it gets hard for you to breathe. And how you may feel 'tight' when you have asthma. Those muscles are tightening and squeezing your poor bronchial tubes. And you may start coughing a lot to get rid of all that extra mucus. What no one can tell you yet is *why* you have asthma at all. There are many people trying to figure that out right now. But we still don't know. But we have found out how you can help yourself not be bothered by asthma as much.

Followup Activities

Depending on time and age-appropriateness, use all or some of the activities to reinforce concepts:

- Straws
- Balloons
- Cardboard Tubes
- Animal Lung
- Air Movement Game

Let's do something that will help you remember all that you have just learned.

Straws

Pass out straws

Blow through your straw. Now suck air in through your straw. Now pinch the straw in the middle. What happens when you try to blow through the straw now? Can you suck as much air in when the straw is pinched? What part of the lungs are the straws like? Right, the bronchioles. And when we pinch them it's just like bronchoconstriction!

Balloons

Pass out balloons

Let's blow up some balloons. Now let the air out.

Pass out pieces of string

O.K. Now let's tie the string around the neck of the balloon and try to blow them up again. See how much harder it is to get the air into the balloon. Now, take off the string, blow up the balloon and tie the string around it to keep the air in. Slowly let the air out by loosening the string.

The string is like the thin muscles wrapped around the airways in the lungs. The whistle of air as it comes out of the balloon is like the balloon is wheezing. Do any of you sound like that when you wheeze during asthma?

Cardboard Tubes

Pass out a cardboard tube from a roll of paper towels.

Let's pass this tube around the circle. As it gets to you, look through it. Now blow through it. I bet it makes your lung pictures flutter.

Pass out a similar cardboard tube that has been stuffed with absorbent cotton.

Can you see through this tube? Can you make your papers flutter when you blow through this one? This is what your breathing tubes are like when edema occurs. Do you remember that word?

Pass out another cardboard tube around which you have tightly twisted twine or rubber bands so that the tube is almost squeezed shut.

How about this tube? Can you see through it? Maybe a little bit. How about when you blow through it? Does the air get through? The rubber bands or string are like the muscles around your airways when you're having asthma. They're tight and won't let very much air come through.

Allow time for the children to play with the tubes.

Animal Lung

Have you ever wondered what a real lung looks like. I went down to the market and the butcher gave me a lung from a sheep (or cow). Come on up and have a look at it.

Allow all children time to look at the animal lung.

Does it look like you imagined it would? Can we see bronchioles or alveoli? What do you suppose this spongy stuff is?

Air Movement Game

The game can get wild with legs being closed so tightly that no one can squeeze through. However, you can prevent this by giving interesting situations and handling potential problems as they arise, for example, by saying that the bronchial tubes never close completely.

You can emphasize that air moves slowly and evenly and encourage the "air" volunteers to try to simulate the smooth, regular movement of air. This game can be great fun and both a visual and tactile learning experience.

Let's play a game that shows what it's like for the air to try to get in and out of the lungs. Who will volunteer to be part of the airways in the lungs with me?

Take several volunteers.

Stand with your legs apart in a line close to the person behind or in front of you. Put your arms around each other's waists or shoulders so you are in a snake-like fashion with a tunnel of legs.

Instruct the other children to be "air."

O.K. Air people crawl through the tunnel of legs as if you were a stream of air going in and out of the lungs.

Keep up a running patter or commentary.

And here comes the air going comfortably into the lungs and then being breathed out. And time goes on and the air comes in and out as breathing goes on. Remember that the air moves smoothly and evenly as it is breathed in and out.

And time goes on and Marvin [or whoever you use as an example] forgets to take his medicine [or keeps playing with his dog]. Why, my goodness, what's happening? Slowly bring your legs closer together and communicate to your fellow bronchial tubes to do the same by tightening your grip on their shoulders or waists.

It looks like the bronchial tubes are starting to close up and there's less room for the air to get in and out. Look how hard the air has to struggle to move through the air tunnel of bronchial tubes. Now the air tunnel never closes all the way down, but sometimes it sure does get small.

Boy, since it has gotten *so* hard to breathe, Marvin finally notices and says to himself, I'd better slow down and rest and get something warm to drink and just relax a bit. And take my medicine. I forgot it before.

And here comes the medicine, and why look. The bronchial tubes slowly begin to relax, not right away, but pretty soon. They get more relaxed, and air has an easier time moving in and out. Slowly loosen your grip and again inch your legs to an open position so the leg tunnel opens and widens again.

And here comes warm apple juice, slowly coming down the throat, warming and relaxing the trachea and thinning the mucus. And what's this? Why Marvin is doing some breathing exercises and relaxing and just sitting down and letting the world float by.

Ah, how nice and relaxing. Just sort of loll around, still connected in your bronchial tube tunnel.

Have the children change roles and repeat, using different names and situations.

Be creative, be dramatic, the children love the running patter if it is different and exciting.

Attack Management Discussion

Now that we've had some exercise, let's sit down again and let's talk about some of the things that you can do when you feel an asthma attack is coming. What do you do?

Encourage participation by all group members.

As items are mentioned, write them on the board or flipchart. Group specific examples into the appropriate category. For example, "use a nebulizer" would go under the category "use medication".

Categories:

Rest
Relax
Drink warm liquids
Tell an adult
Use medication
Do belly breathing

Be sure to mention any item that children may omit.

Summary

O.K. Now we have a list of what to do. Let's talk about each of them a little more so we understand why we do them.

First, *rest.* Movement of any kind takes more oxygen than just remaining at rest. The more oxygen used, the more work for the lungs and breathing system. Breathing during an attack is already hard work because of the narrowing airways. Moving just adds to the work load. So sit down or lie down.

Next, *relax.* Does everyone know what the word "relax" means? Some people say that it means "letting go," or "letting your body and mind float."

Allow discussion of relaxing.

Next, *drink warm water during an attack.* Liquid helps thin the mucus that thickens during an attack. Warmth seems to help the bronchial tubes relax, while cold can cause them to tighten even more. The liquid should be consumed rather slowly, rather than in sudden gulps.

The amount of emphasis placed on this point should be related to the age and maturity level of the children in the group. Encourage children to let their teacher, or other responsible adults, know when they have trouble. Many are hesitant to let anyone other than their parents know they need to rest or drink liquid.

Be sure to *tell an adult* that you are having problems breathing. We encourage you to handle your own problems, but it is frequently helpful if an adult knows you are having difficulties that are being handled.

Use medication that has been prescribed for your attacks. Some of you have inhalers or nebulizers for use; others take pills or liquids. This is an individual matter and we'll talk about it more completely next week. Be sure that you know the names of the medicines that you take by next week.

There is continuing debate in medical circles about the benefits of this breathing technique for asthma. It is offered as *one* of many techniques useful in asthma self-management. Some children learn it quickly and seem to enjoy using it as soon as they notice minor breathing problems.

Do belly or diaphragmatic breathing.

Do you know about belly breathing? We'll learn to do it next week. Be sure that you begin the above treatment steps *as soon as any symptoms* are noticed.

Here's a little rhyme to help you remember some things to do when you feel like you're getting an attack:

Think, drink,
Be calm, tell Mom.
Maybe a med, maybe to bed.

Now let's say it together.

Repeat with children using a catchy rhythm.

Be sure everyone knows it before going on.

Things to do to Prevent an Attack

Do you know what kinds of things to do to keep from getting an attack? This is called preventing an attack. What things do you do?

Encourage participation by all group members.

Stress that there are many things children can do to help themselves.

Encourage them to talk freely about what they already do to take care of themselves. Give them positive reinforcement for taking care of themselves.

Write on the board, "things to do to prevent an attack." Add the italicized phrases to the list as each is discussed.

Stay healthy. There are some specific things that you can do to help keep yourself in top health.

- Get enough sleep.
- Eating properly.

- Get exercise every day.
- Drink lots of fluids.
- Avoid people with colds and infections.
- Take any prescribed medicines exactly when and how they were prescribed.

Promptly *treat any colds or infections.*

Avoid known allergens and asthma-causing situations as much as is practical.

Take preventive measures when contact with allergens or triggers is unavoidable.

- Use medication preventively when possible.
- Wash and change clothes after contact with allergens such as pets, dust, etc.
- Wear a scarf or face mask when it's extremely cold.

Final Activities

Choose activities suitable for the group.

Coloring lung pictures

Decorating folders

Children's interview

Pass out folders or three-ring binders.

You can put your lung pictures into these folders. They are yours to keep, but be sure to remember to bring them each time you come. We'll have lots more things to add to them.

Hand out children's interview.

Now we're going to learn some more about each other. Do you all know what an interview is? Ask the person next to you the questions on this sheet. Then you'll answer the same questions for your neighbor. When we're through, each person will tell all of us about the person he or she interviewed.

Allow time for interview.

Circulate among the children to offer help where needed.

After interviewing has been completed, allow each child to report.

Reminder

Don't forget to bring your notebooks back next week.

Home Assignment: Medications

Hand out home assignment on medications.

For next week, fill this sheet out with your parent's help. Be sure to bring it with you next time.

Have a good week. Bye-bye.

HOW TO CONSTRUCT THE **LUNG BOARD**

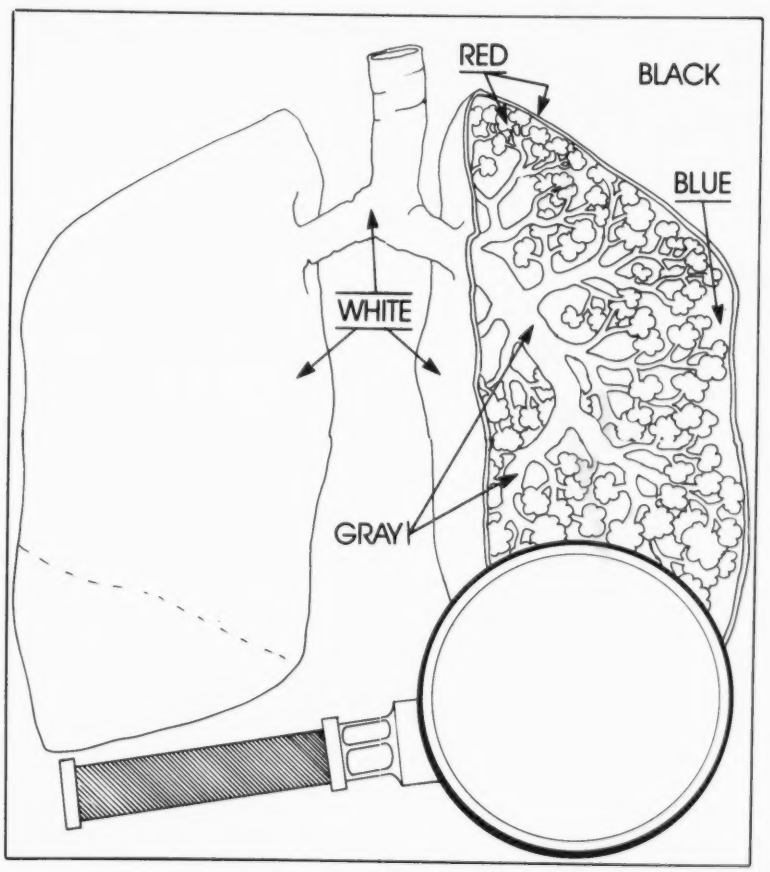
Materials Needed:
one poster board or styrofoam board, 23 by 23 inches
adhesive-backed velcro, cut into 16, 1-inch-square patches
glue
scissors
red, blue, gray and black magic markers or crayons

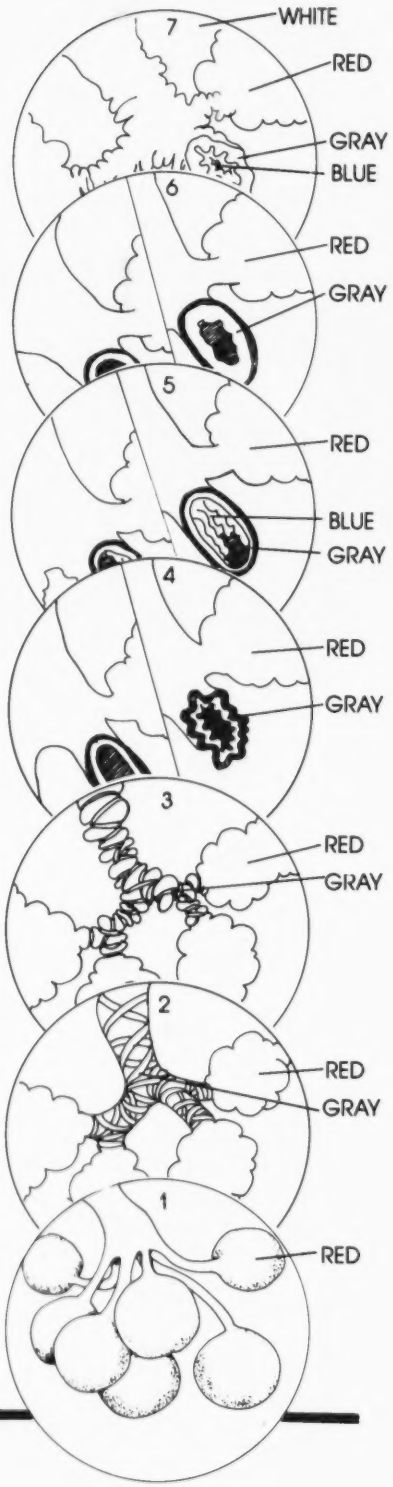
Instructions:
Duplicate the four lung diagram pages and paste the copies onto the poster board. Each page is labeled for correct placement (upper, left-hand corner, etc.). Save the masters and return them to this teaching manual.

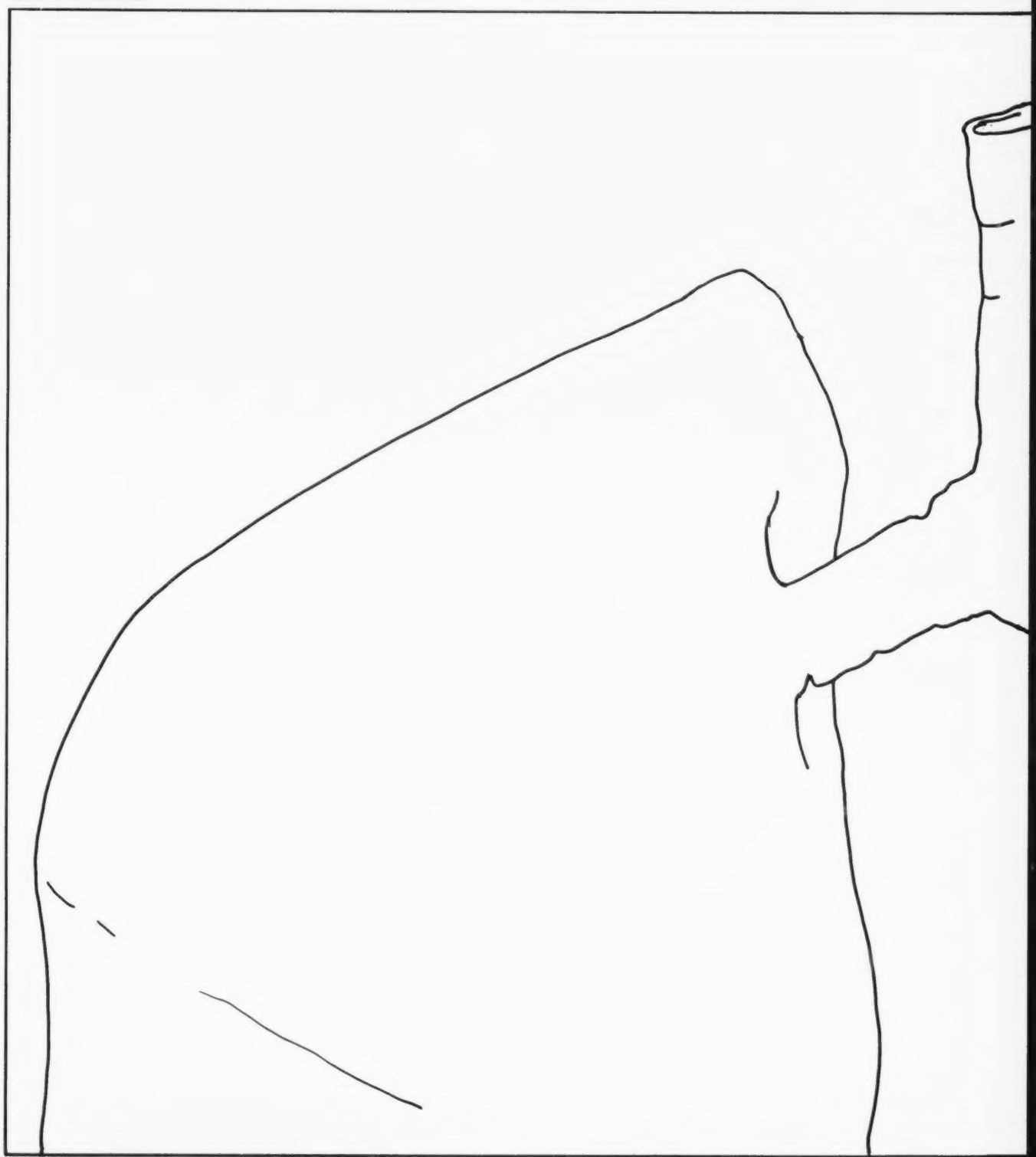
Duplicate the seven circular, magnified drawings of the lung, paste them onto some poster board, and cut out the circles. Return the masters to this notebook.

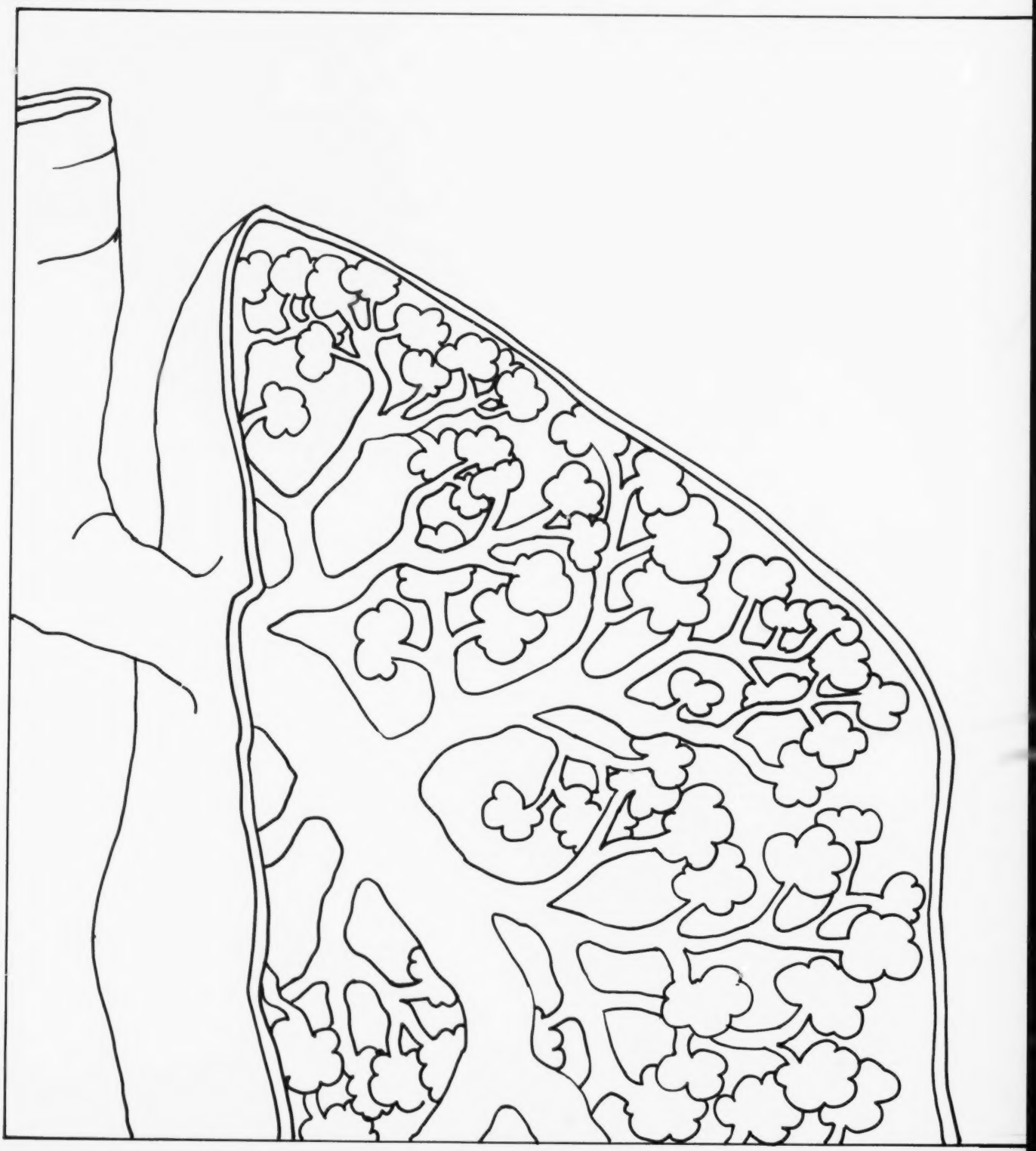
Attach two, 1-inch-square velcro patches inside the magnifying glass on the lung diagram at the top and bottom. Also attach velcro patches on the backs of each of the circles at the top and bottom, so that when they are stuck to the magnifying glass, they will be right side up.

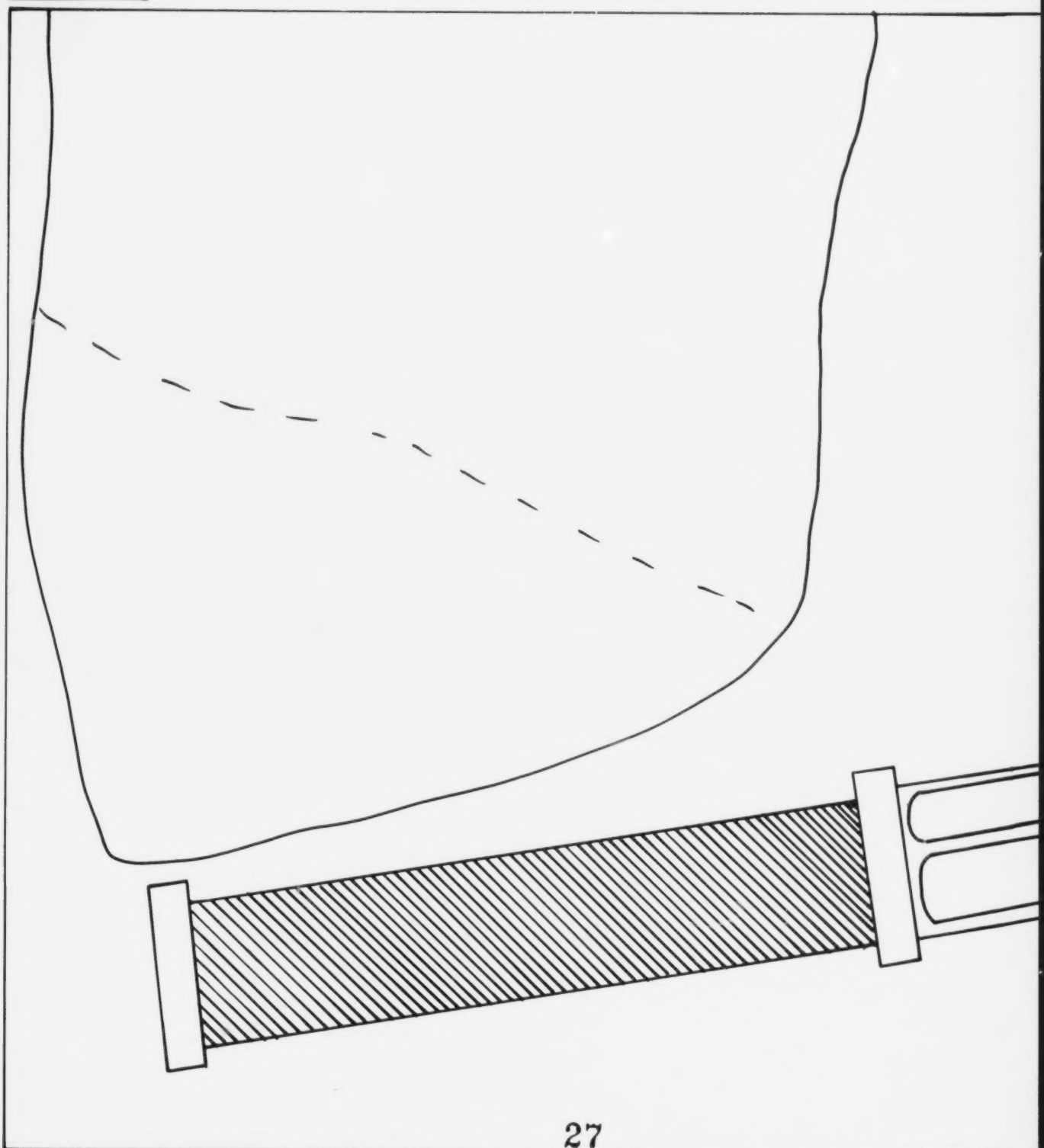
Color the lung display to correspond to the color keyed picture below.











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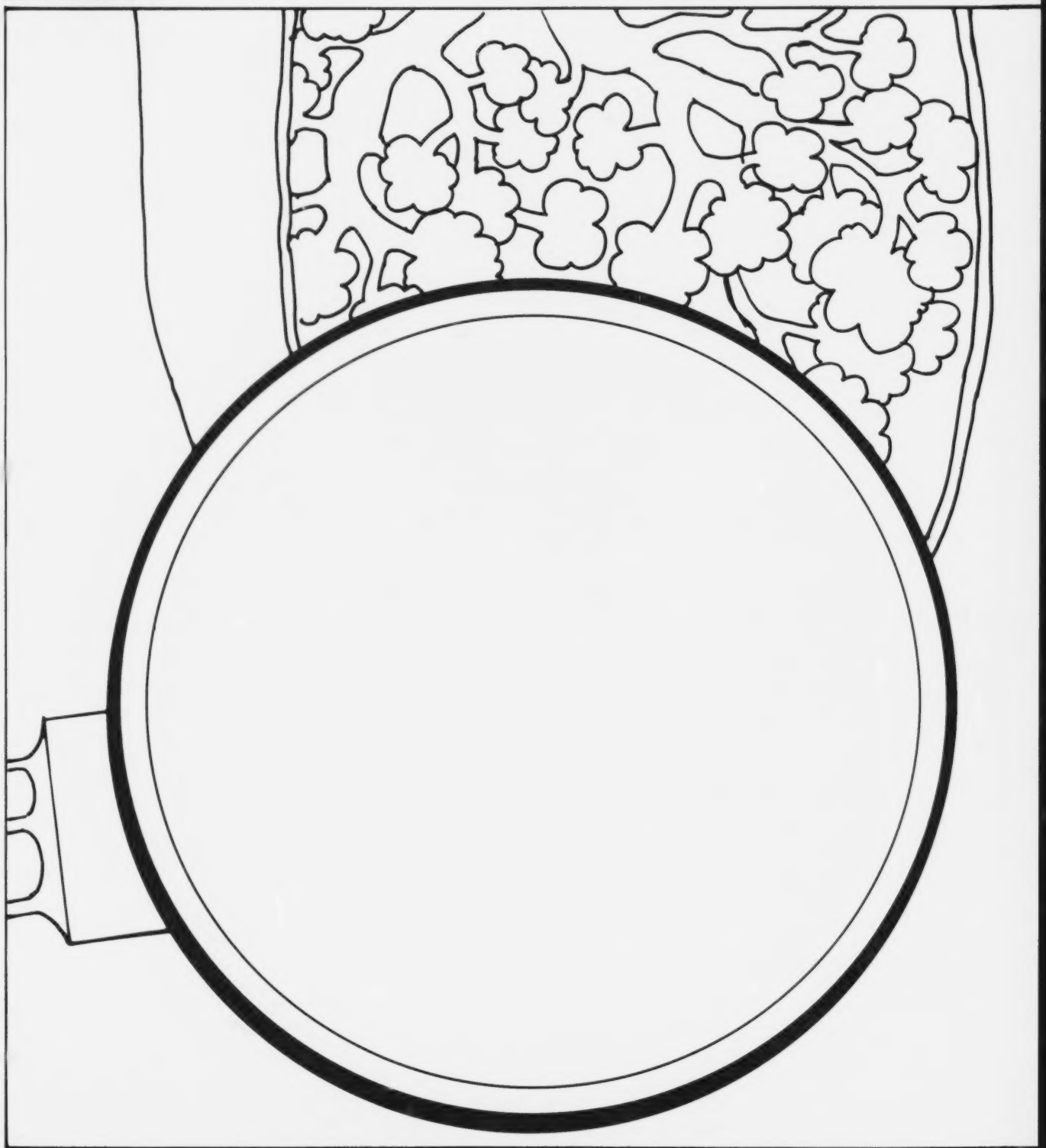

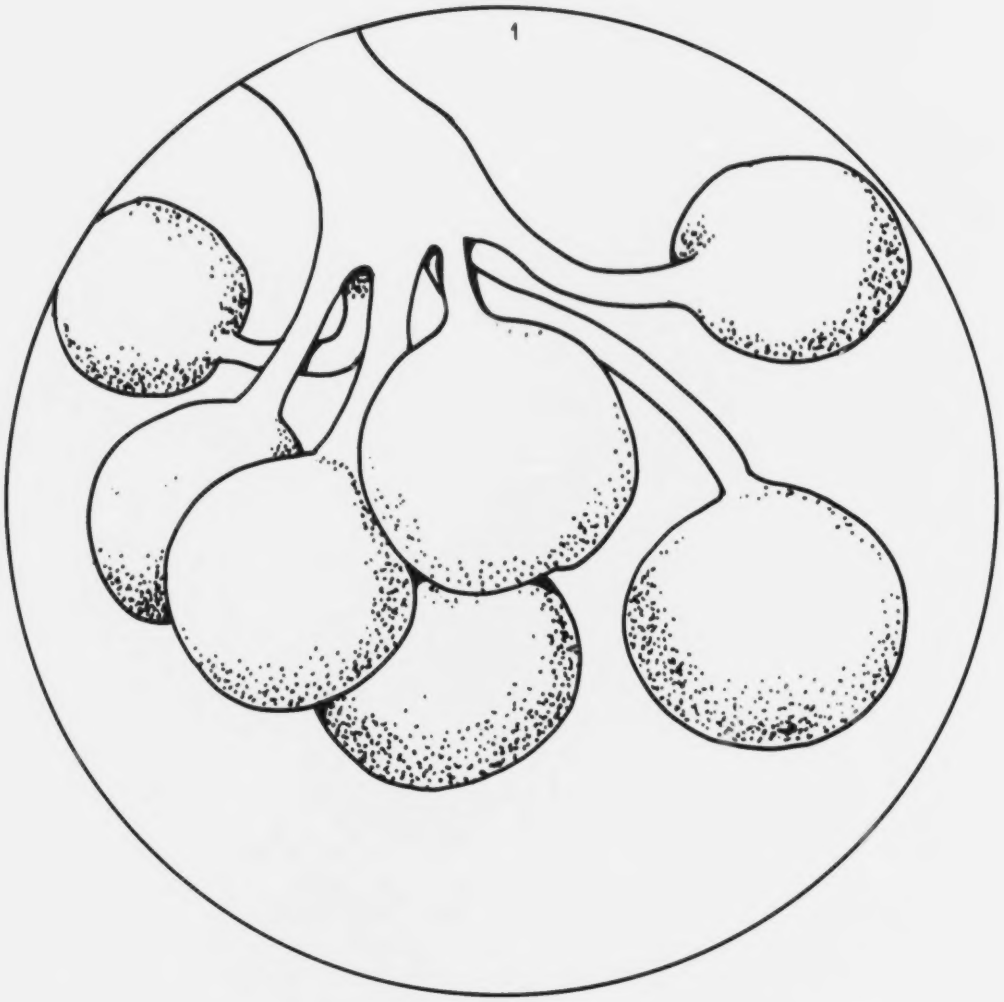
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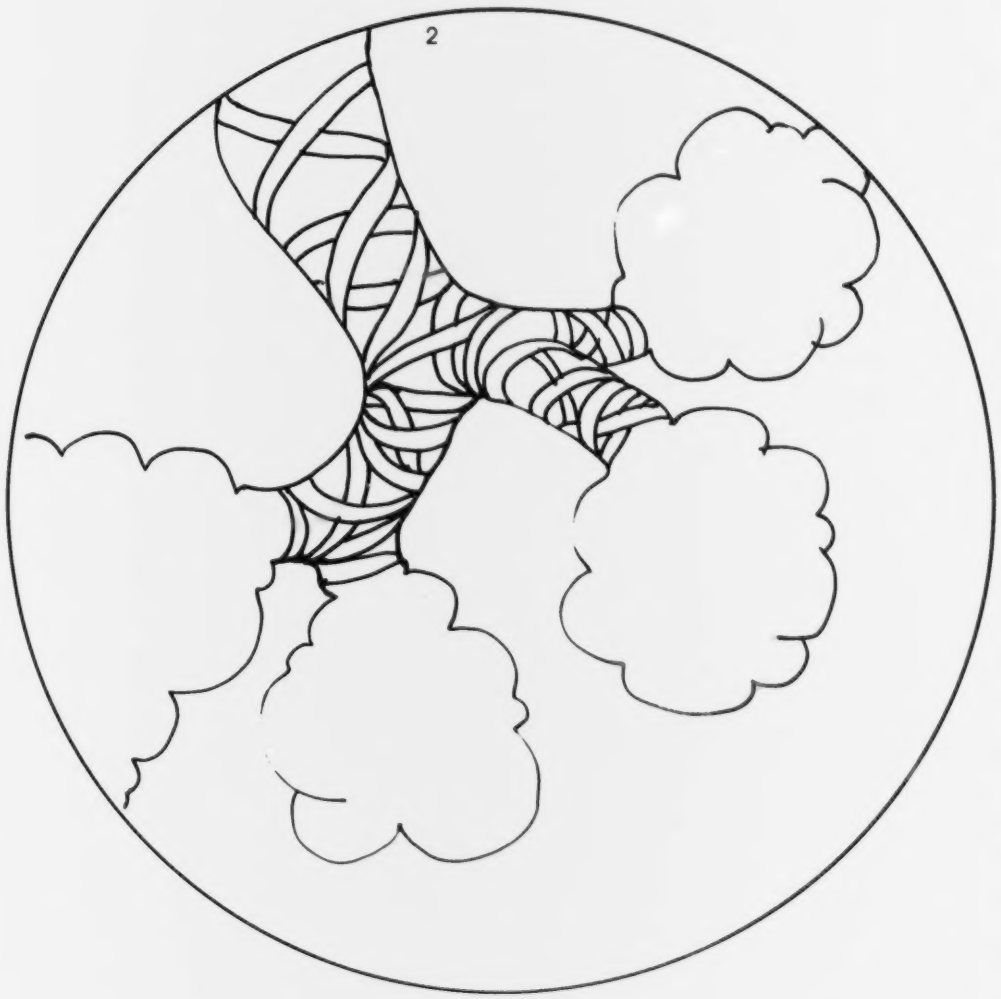
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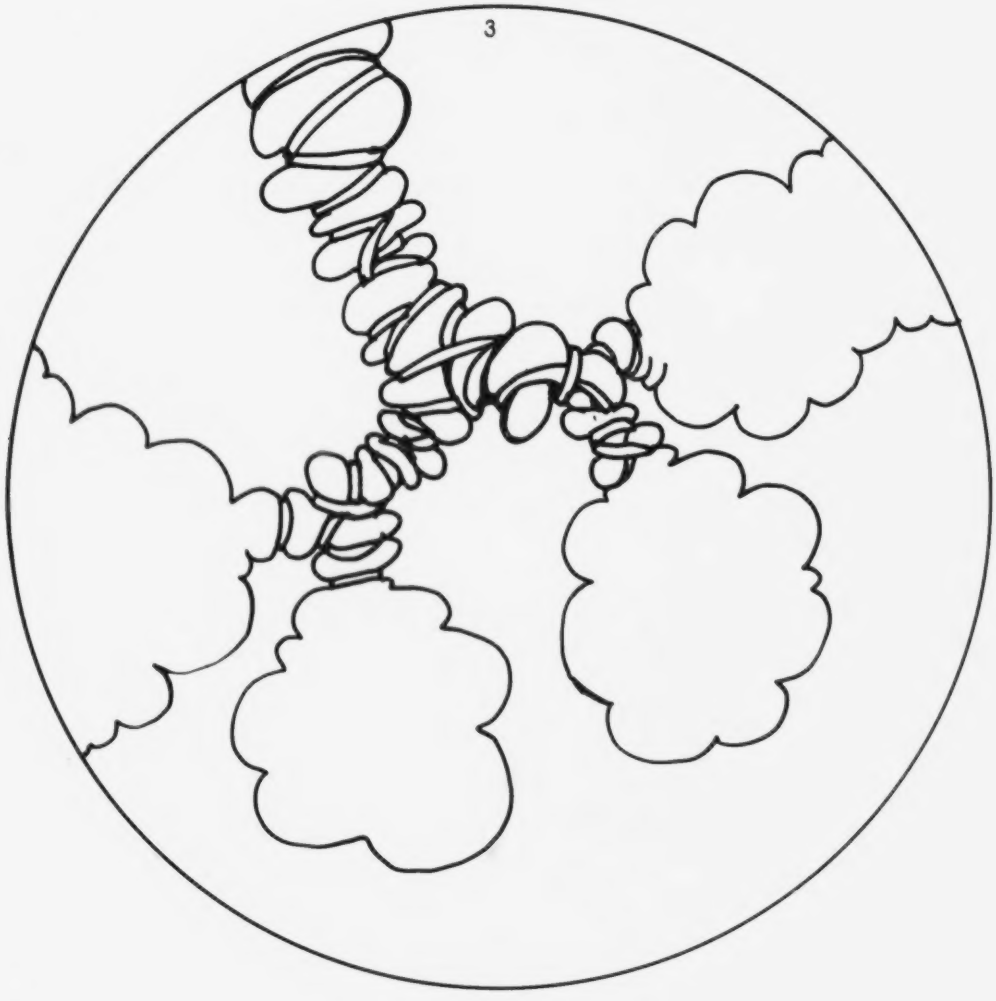
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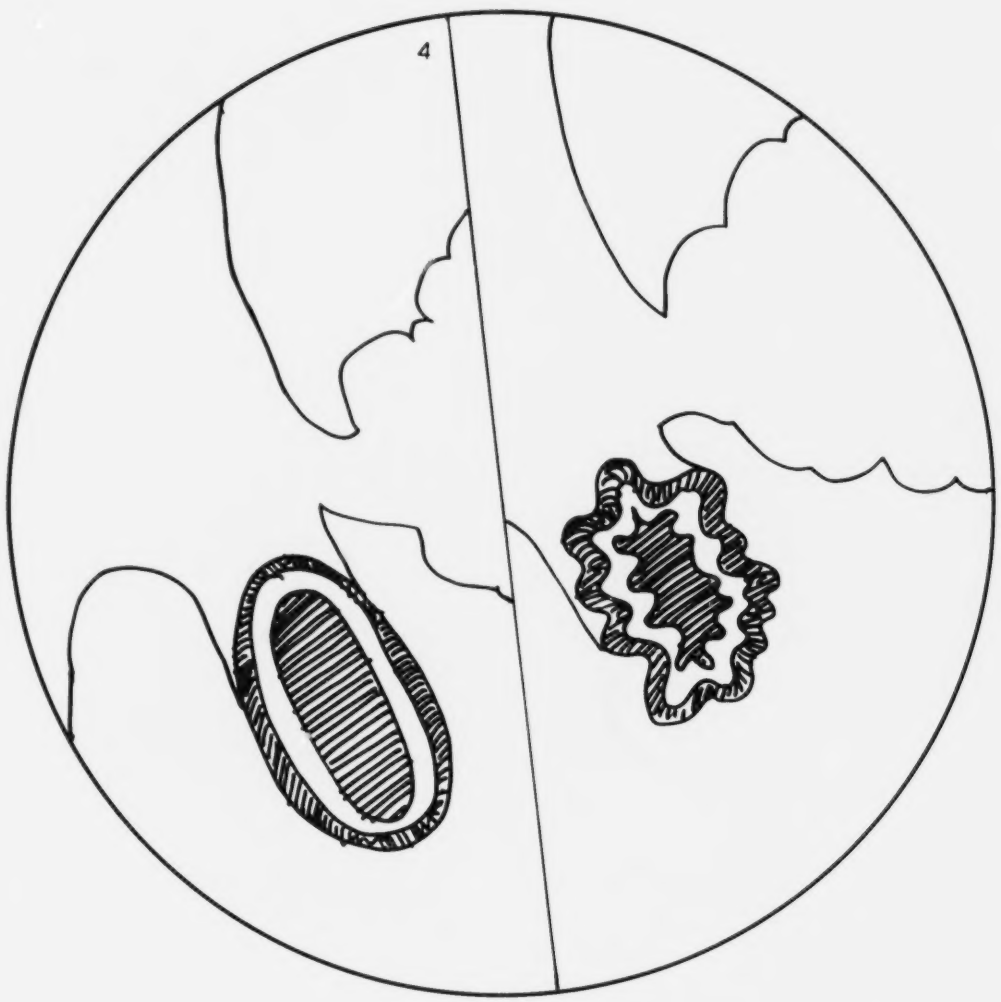
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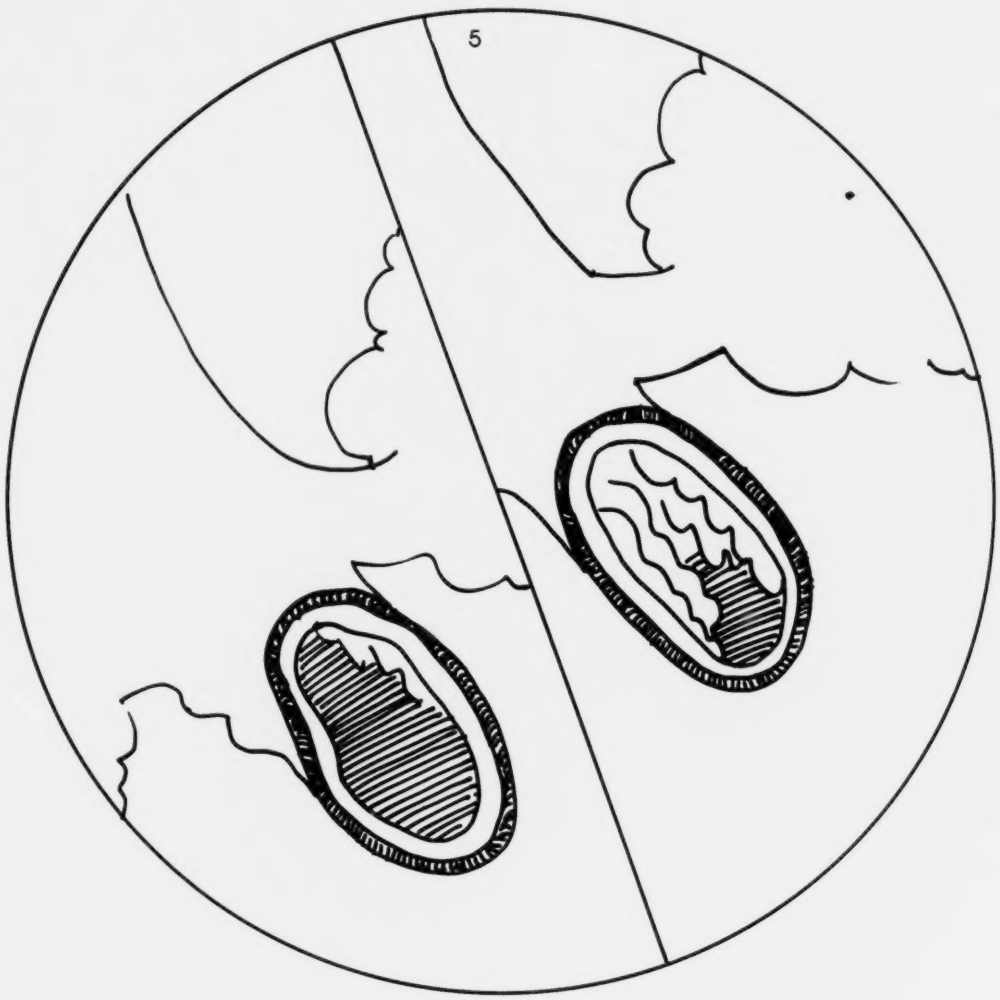
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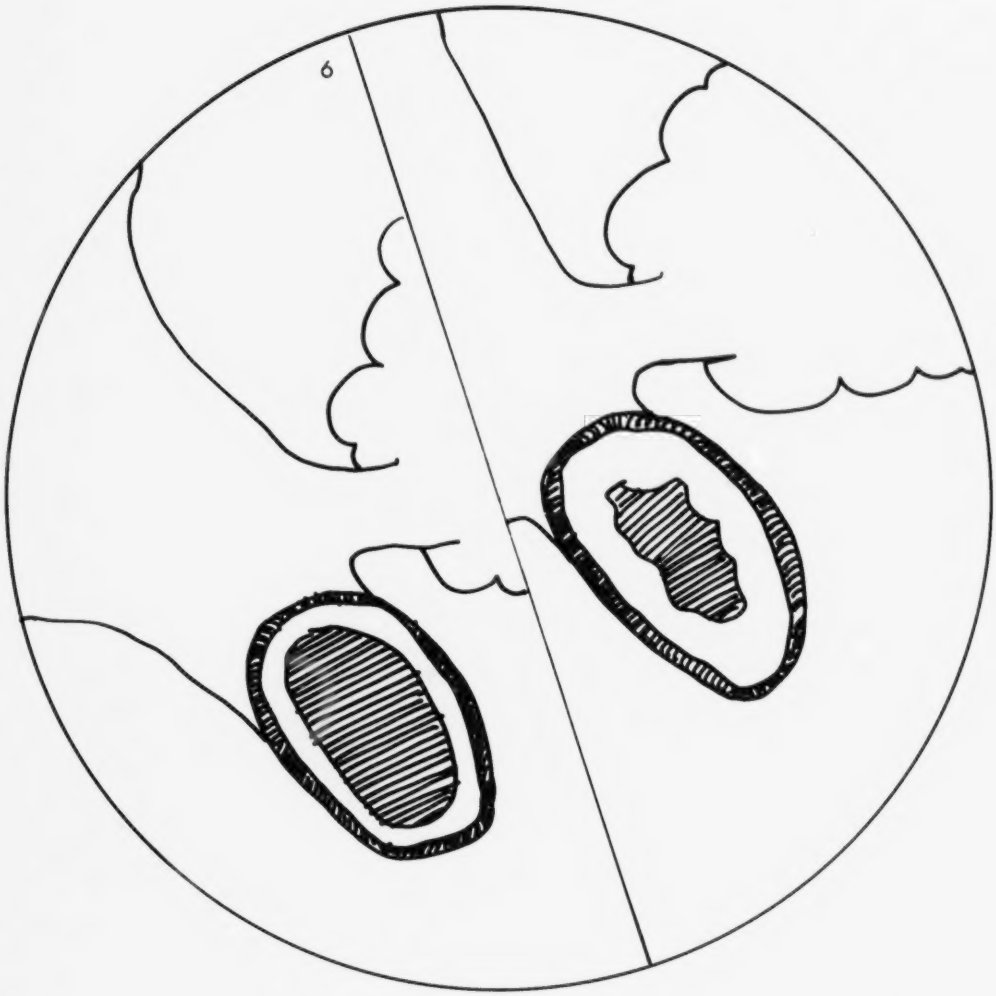
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SUMMARY OF ATTACK **MANAGEMENT** AND **CONTROL**

I. BE AWARE

Between Attacks

You can help prevent attacks by:

- Avoiding known asthma triggers such as allergens, irritants like cigarette smoke, infections, weather, emotions, etc., as much as possible.
- Practicing breathing exercises.
- Knowing your limits for physical activities.
- Drinking plenty of liquids, preferably warm.
- Taking medication as prescribed by the physician.
- Following good general health practices: getting adequate sleep, eating properly, exercising regularly.

You can prevent future attacks from becoming serious by:

- Analyzing the management of previous attacks.
  What corrective measures worked?
  What corrective measures didn't work?

II. BEWARE

of Early Warning Indicators

You can prevent an oncoming attack from getting worse by:

- Recognizing early warning indicators:
  Physical Symptoms such as: coughing, tightness in chest, decreased exercise tolerance, feeling tired, itchy throat, watery eyes, feverish, dry mouth, clammy skin, facial color change, sore throat, scratchy throat, heart beats faster, head plugged up, stroking of chin or throat.
  Emotional Symptoms such as: feeling spacey, getting upset easily, feeling nervous, feeling grumpy, feeling restless.
- Following attack management steps—resting and drinking liquids (preferably warm) if early warning indicators are experienced.
- Remembering that most attacks come on gradually and the measures taken early may be very helpful in preventing a full-blown attack.
- Using belly breathing and progressive muscle relaxation to help to gain control.

III. CAUTION

During an Attack

You can reduce the severity of breathing problems by:

- Continuing to rest and relax.
- Using belly breathing and progressive muscle relaxation if they help.
- Taking medication prescribed for attacks.
- Continuing to drink plenty of liquids, preferably warm liquids.

ATTACK MANAGEMENT

The time to treat an asthma attack or episode is when the symptoms first appear. These symptoms may include shortness of breath, coughing, a slightly tight feeling in the chest, etc. By "catching" an attack early and treating it quickly, the chances of having a severe attack are greatly reduced. The later an attack is treated, the more difficult it is to restore normal breathing patterns.

Attack Management Steps

Your child should follow these simple and easy steps used by children at the National Asthma Center when he or she suspects that an asthma attack may be coming:

1. Rest and relax.
2. Drink warm liquid.
3. Use medicines prescribed for attack.

1. *Rest and Relax.* At the first sign of breathing difficulties, the child should STOP and rest. This means sitting down and resting for at least ten minutes. Relaxing may be explained as letting go, getting as comfortable as possible and staying that way for a while. Diaphragmatic breathing or "belly breathing" may help children relax by giving them something concrete to do, and thus help them gain control over their asthma. Children who panic or have a hard time settling down may need to practice progressive relaxation before they can relax during an attack or episode. If the child does panic, progressive relaxation is probably best taught by a professional trained in this technique. Progressive relaxation does not take a long time to learn, but must be practiced to be effective. (See section PRACTICING RELAXATION.)

2. *Drink Warm Liquid.* It should be taken slowly rather than all at once. Warm liquid is preferred because it helps the bronchial tubes relax. Very cold liquid may actually hinder getting an attack under control. Getting and drinking something warm is a step that a child can do for him or herself. As soon as the child is old enough, sit down and discuss warm things that he or she likes to drink. Make sure there is always a supply of those things and encourage the child to get them for him or herself.

3. *Use any Medicines as Prescribed for an Attack.* Different types of medicine are used for attacks. Be sure that you understand how to use whatever medicines that your doctor prescribes. Call your doctor if you realize that you need clarification on certain points. (Be sure and read the sections on WHIFFERS, PUFFERS, etc. . . and MEDICATIONS FOR ASTHMA.)

Taking Responsibility for Managing an Attack

Management steps #1 and #2 are things that children can do themselves. It is important that children are taught that resting and drinking liquids are things that they can do on their own to help themselves.

Depending upon the age of the child, set up some agreements in your family as to when the child should let you know about his or her breathing difficulty. With an older child, it may be the child's responsibility to take the first two steps, then let you know if no improvement in breathing has been noted after 15 minutes. If the child is very young, you may instruct the child to let you know as soon as he/she realizes there are breathing problems. Then you can provide such prompts as, "I'm glad that you came and told me that you're having a little trouble breathing.

What can you do to help your breathing get better?" If the child suggests warm water, or resting, give praise for the child's remembering. Then be sure that the child takes his or her own advice. If the child has forgotten what to do, then remind him or her about the steps and help (but do not do it all yourself) the child take those steps.

And what if the preceding steps don't work? That may happen for a variety of reasons. Later, after the attack is under control, analyze why the attack got worse. Was there anything that you or your child could have done differently that may have kept the attack from worsening? Sometimes you may be able to plan new strategies for dealing with attacks in the future. Sometimes there may not be anything that you or your child could have done differently to gain control of the attack.

When to Call the Doctor

Parents are sometimes reluctant to call the doctor because they don't want to be a "bother." If the child seems to be having a serious asthma attack, some important points to remember are:

Breath is life. It is nothing to fool around with. If you have any doubts about the severity of an attack, get medical help first. Then ask if you should have brought the child in or should have waited. In this way, you can learn to better judge those things for yourself in the future.

If the child's lips or fingernails are turning blue or if he or she seems to be breathing shallowly and focusing all attention on breathing, get help. You cannot always hear wheezing during a serious attack, so don't rely upon that as a sign. If a child is in trouble and nothing is done to relieve bronchoconstriction, or nothing relieves it, the child will go into *status asthmaticus.* This is a serious attack where conventional asthma treatments do not help. It requires specialized care and attention.

If in doubt, call. Don't wait until the last minute to call. A phone call to your doctor costs next to nothing and could prevent a great deal of worry.

Asthma medications take a varying amount of time to work depending upon the specific kind. Ask your doctor to give you some guidelines about the particular medication that your child is taking. How soon after your child takes the medication should you begin to see it take effect? If it doesn't seem to be taking effect, how long before you can give more?

COMMON QUESTIONS ABOUT ASTHMA AND ASTHMA MANAGEMENT

What Is an "Asthma Attack" or an "Asthma Episode"?

These are general terms that encompass all types of asthma symptoms and all types of asthma attacks. They cover situations ranging from slight difficulties in breathing and wheezing to acute attacks to status asthmaticus.

For the child with asthma, any difficulty in breathing might be called an asthma attack or an asthma episode.

What Does the Term "Acute Attack" Mean?

An acute attack is any series of asthma symptoms that is severe enough to cause a person to stop what he/she is doing.

What Is "Status Asthmaticus"?

Status asthmaticus refers to an asthma attack that is getting progressively worse and that does not respond to asthma medicines normally used during an attack. This situation requires emergency treatment in a hospital or a doctor's office.

How Can Status Asthmaticus Be Prevented?

Serious asthma attacks can be prevented by avoiding situations that trigger asthma and by taking self-management steps in the very early stages of an attack.

What Happens During an Asthma Attack?

An asthma attack occurs when there is a blockage in the breathing tubes. This blockage is caused by three things:

1. *Bronchoconstriction:* the muscles that surround the breathing tubes tighten and make the airway smaller.
2. *Edema or swelling:* the lining of the breathing tubes swells and expands inward, making the opening where the air flows even smaller.
3. *Mucus secretion:* the membranes that line the breathing passages secrete extra mucus that may become thick and stringy and form plugs that further block the air passages.

What Causes Asthma?

Asthma is caused by an inherent sensitivity or twitchiness in the airways (breathing tubes or bronchial tubes).

What Is an Asthma Trigger?

A trigger is something that sets off an asthma attack.

What Are Common Asthma Triggers?

Common asthma triggers are allergens, such as pollens, foods, dust, mold, feathers, or animal dander; irritants such as smoke or odors; respiratory infections; emotional stress; or too much exercise.

What Are Some Ways to Avoid Asthma Triggers?

1. If an allergen like dust or pollen is a trigger, have your child avoid that allergen.
2. If a certain food is a trigger, your child should not eat it.
3. If your child is allergic to dust and mold, clean the child's bedroom three times a week. The child can help you put toys away so that they will not collect dust.
4. If air pollution or weather changes bother your child, have him/her stay inside as much as possible when such outdoor conditions exist.
5. If respiratory infections trigger your child's asthma, he/she should avoid adults and children who have respiratory infections and take steps to stay healthy; this includes getting enough rest, eating properly, and drinking plenty of liquids. If your child does get a respiratory infection, see that your child is treated or takes care of it immediately.

Is It True that Asthma Is "All in the Head"?

No. This is *not* true at all. People who have asthma have an inherent sensitivity in the lungs. When these people are exposed to certain stimuli, the lungs react in a way that makes it hard to breathe. There are many types of stimuli that can provoke or "trigger" this asthmatic reaction in the lungs. Some of these triggers include allergens, irritants, certain foods, strong emotions, or too much exercise.

A person might deliberately expose himself/herself to a trigger, such as smoke or pollen. He/she might also either deliberately or not deliberately get into a strong enough emotional state so as to precipitate an attack, or may exercise too hard and set off an attack. However, in the absence of triggers, a person with asthma cannot think himself or herself into an asthma attack.

Do Emotions Cause Asthma?

Emotions do not cause asthma. The cause is the physical reactivity or sensitive state of the lungs. Strong emotions may trigger an attack or make the job of controlling an attack a lot harder. However, they are not the underlying cause of the asthma itself and do not cause the person to develop the "lung twitchiness" in the first place.

What Can a Person Do to Avoid or Prevent Asthma Attacks?

1. Avoid triggers known to set off his/her attacks.
2. Know personal limits for exercise and not exceed them.
3. Take prescribed medicines on time, in the correct manner, and with the correct dose.
4. Avoid respiratory infections.
5. Follow good health habits such as getting enough sleep, eating properly, resting when needed, exercising properly.

How Can a Person Handle/Manage an Asthma Attack?

At the first sign of an oncoming attack, a person should:

1. Stop and rest.
2. Drink some liquids.
3. Take asthma medicines as prescribed.

It is important to be aware of the early warning signs of an attack and to take steps for self-management as early as possible. This way, a really serious attack often can be prevented.

What Can Be Done to Facilitate These Self-Management Steps?

If the attack occurs at home, the child with asthma may find it helpful to do quiet things during the preattack resting period. Such things include reading, playing cards, sleeping, or whatever the child likes to do that can be done with minimal physical exertion. The parents should have any needed materials ready so children can easily find them.

When drinking liquids, the child should make sure the beverage is not too cold.

How Can a Child Handle an Attack that Comes on with Hard Exercise?

The same three self-management steps as above should be followed: (1) stop and rest, (2) drink some liquids, (3) take medicines as prescribed. These steps are the same for an attack caused by other precipitants.

However, if the child consistently performs the above steps and still experiences asthma during exercise, he/she should talk to the doctor about the situation. The doctor may be able to prescribe a medicine that can be taken just before exercise to help prevent attacks.

What Role Does Drinking Liquids Have in Asthma Management?

Drinking liquids has a twofold role in asthma self-management. First, it is important for the child with asthma to drink plenty of liquids every day, even when he/she is not having an asthma attack. Second, during an attack, drinking warm liquids is an important attack management step.

Why Is Drinking Liquids Important?

During an attack, the child with asthma often breathes harder and faster, and more water is evaporated from the mucous blanket in the airways. Also, during an attack, the mucus tends to get thick and stringy and to form plugs as it starts to dry out.

Drinking liquids during an attack helps to replace the water that is lost by evaporation. The liquid that is added back to the body helps to thin the consistency of the mucus and makes it easier for the mucociliary escalator to move mucus up and out. This action helps to prevent airway blockage by mucus. These same considerations also are important in the everyday management of asthma because drinking plenty of liquids keeps the mucus well moisturized.

Why Is Warm Water Recommended During an Asthma Attack?

Water enters the body through the esophagus, or eating tube, which lies just behind the windpipe. The warmth of the water radiates to the windpipe, or trachea, and helps to relax it.

Should a Child with Asthma Take Gym Class or Should the Parents Ask the Doctor to Excuse the Child from Gym?

Exercise is important for a child with asthma. He/she does need to exercise to stay healthy, just like any other child. It is advisable for a child with asthma to participate in gym class if he/she is feeling well. However, children with asthma should be careful not to get overtired when exercising. They should be aware of their own limits for exercise and not exceed them. If the child feels an attack coming on, he/she should be allowed to stop and rest and to follow the other self-management steps. It is important that gym teachers understand that "short burst" sports are well tolerated by children with asthma, while sustained exertion, such as running laps, is potentially dangerous.

When a Person Is Taking Asthma Medicines on Time Every Day and Is Generally Doing Things to Control the Condition, Is It Still Possible for an Attack to Occur All of a Sudden Without Any Early Warning Signs?

No and yes. Usually an attack does give warning, with a slow progression of symptoms that may begin days in advance. With awareness, the person may begin to take steps to ward off the impending attack. However, once in a while an acute attack may come on suddenly. Such a situation might occur if the person comes in contact with a substance to which he/she is highly allergic, is exposed to a large dose of allergen, experiences multiple triggers at one time, or is exposed to a severe weather change. Under normal circumstances, however, an attack should come on gradually with warning.

What Are Some of the Early Signs of an Asthma Attack?

Coughing, shortness of breath, tightness in the chest, pain in the chest, an itchy chin or throat, a funny feeling in the neck, or feeling really tired or grumpy are among the early warning signs of an attack.

Why May a Child's Chest Feel Sore After an Attack?

During an asthma attack, a child works hard to get air in and out of the lungs and uses auxiliary chest muscles to do so. After all that exertion, it is not surprising that the chest may feel sore.

Will a Child Outgrow Asthma?

It is hard to predict for any one child. Some children will outgrow asthma and others will not. Children who seem to have no outward signs of asthma as they get older may still have decreased lung function when it is measured by certain lung tests.

The tendency for asthma will always be there, and the child may or may not develop asthma again as an adult.

Usually, when a child has asthma, a change for better or worse appears around the time of puberty.

How Is Asthma Different from Emphysema or Other Chronic Lung Problems?

Unlike emphysema, which is an irreversible lung disease, asthma is reversible. This means that the symptoms and lung changes that occur during an attack go back to

almost normal when the attack is over. An asthma attack does not last forever, and the person with asthma can breathe normally between attacks. In contrast, a person with emphysema does not regain normal breathing capacity once the disease has begun.

How Can You Find Out What Your Child Is Allergic To?

Doctors try to determine what causes allergic reactions by conducting an allergy history. This means the doctor asks the child with asthma and his/her parents what foods or substances they recall as having triggered an asthma attack or caused an allergic reaction such as a rash. As a second step, the doctor performs a skin test.

How Do Skin Tests Work?

A drop of allergenic extract is placed in a small scratch on the patient's arm or back. This usually does not hurt and does not leave a scar. An allergenic extract is a dilute dose of a substance like grass pollen, dust, or animal hair. If the person is allergic to the substance, a red bump will appear at the site of the extract in about 20 minutes. If a person is not allergic to the substance, no bump will form. A separate scratch and drop of liquid is administered for each substance tested.

After All the Allergy Skin Test Results Come Back, Will You Know All the Things that the Child Is Allergic To?

No. Tests only give a general indication. They do not give all the answers. For most people, skin tests give a better idea of what a person may be allergic to and what, therefore, may trigger an asthma attack. However, some people cannot identify all their allergic triggers by skin tests. They then have to do some observation and comparing on their own. Relating an asthma attack to an observed exposure to a possible precipitant can also help to identify allergens.

How Can Asthma Be Controlled if It Is Impossible to Pinpoint All the Triggers?

Asthma can be controlled by taking the prescribed asthma medicine regularly and on time and by careful self-management practices such as drinking plenty of liquids and stopping to rest if early warning signs are felt during exercise.

Again, What Are the Asthma Attack Management Steps?

1. Rest and relax.
2. Drink liquids.
3. Take asthma medicine, if it is prescribed for an attack, exactly as the doctor instructed.

Where Can You Find Useful Pamphlets and Information About Asthma that Family Members Can Read?

Consult the publications and organizations listed in the resource list published by the National Heart, Lung, and Blood Institute. To obtain a copy of the reading and resources list, write to: NHLBI, Asthma Project, Building 31, Room 4A21, Bethesda, Maryland 20205.

What Are Some Pointers for Asking Your Doctor Questions About Asthma?

When you schedule your child's appointment, tell the nurse or receptionist that you have some questions and would like to schedule time to discuss them. This way she can allow a little extra time for your appointment, and the doctor will be ready to answer your questions.

As questions come up between doctor's visits, write them down. Keep your questions list in an accessible place so you can find it and add to it easily. Bring the list with you when you talk to the doctor.

HOW TO PRACTICE BELLY BREATHING

1. Lie on the floor, bend your knees, keep your feet on the floor, and put one hand on your chest and the other hand on your stomach.

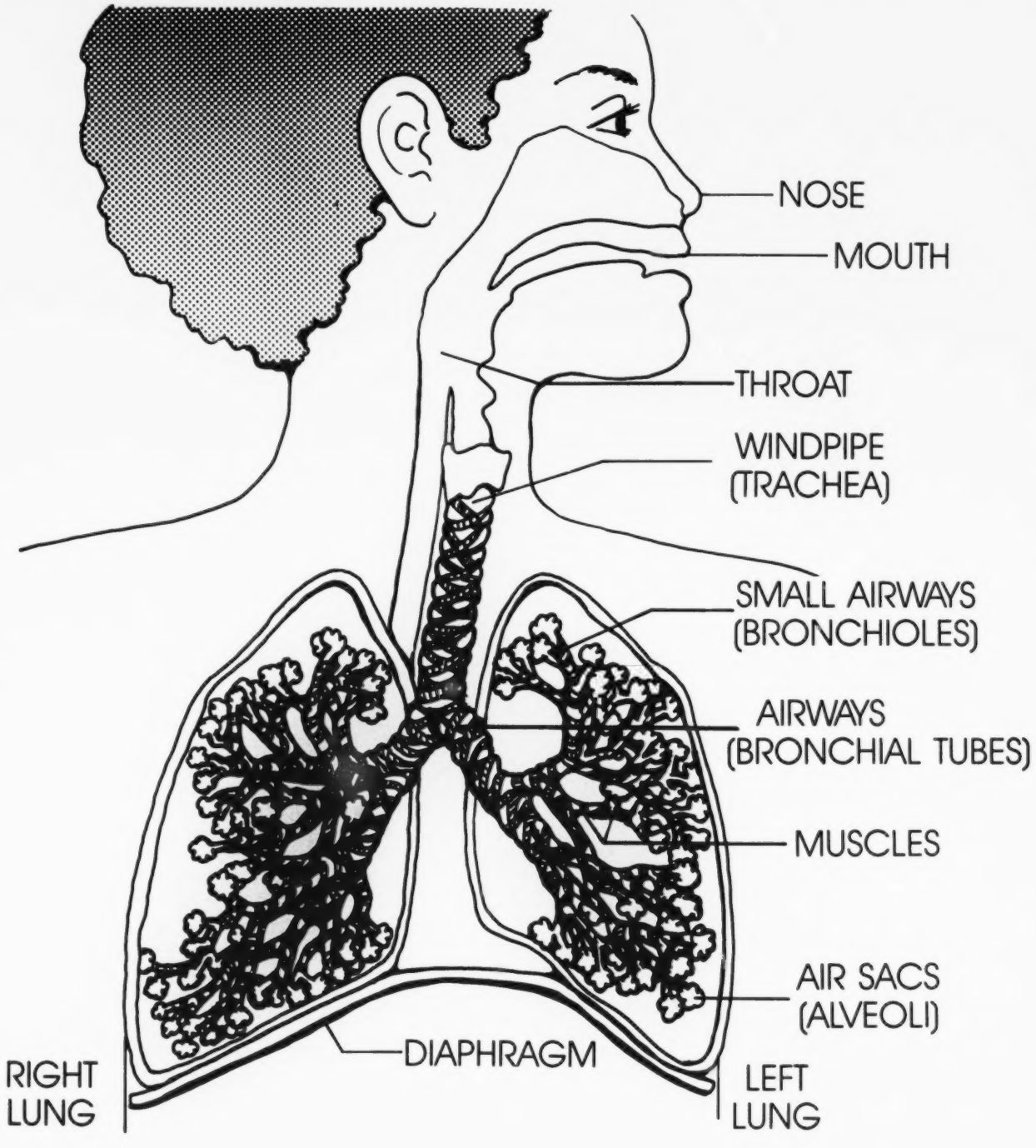
2. Breathe in through your nose, and make your stomach get round like a ball. Your chest should not move.

3. Blow all the air out through your mouth with your lips pursed, and use the hand on your stomach to help you push all the air out. Your stomach should be flat.

Practice belly breathing 10 times, slowly, making sure that your chest remains still. Try practicing this twice-a-day.

Whenever you have a hard time breathing, sit, leaning forward with a straight back, arms on your knees. Now breathe through the nose, then blow all the air out through the mouth slowly, keeping your chest still. Breathing this way may make you feel better and less tired.

1. RESPIRATORY STRUCTURES



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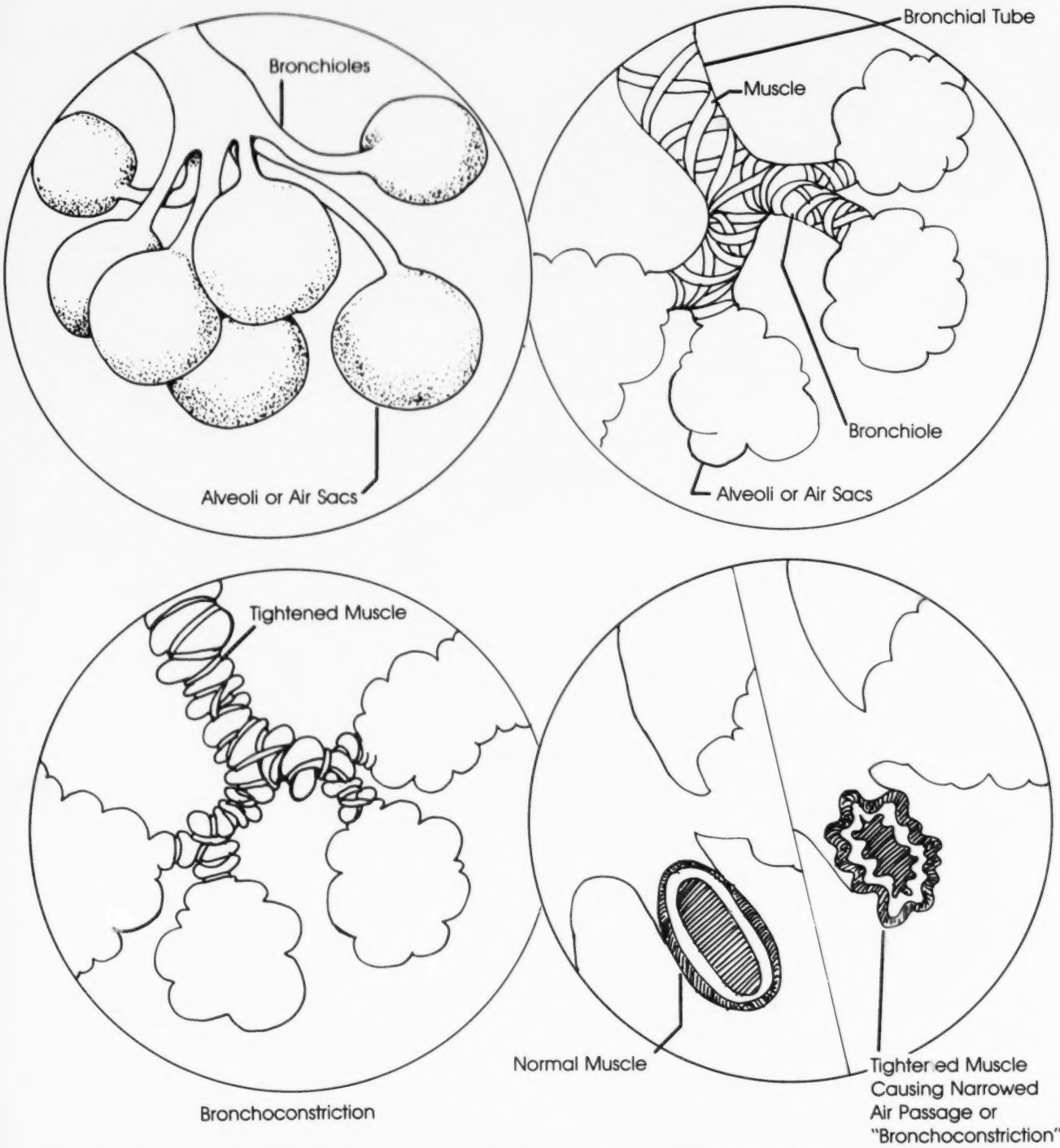

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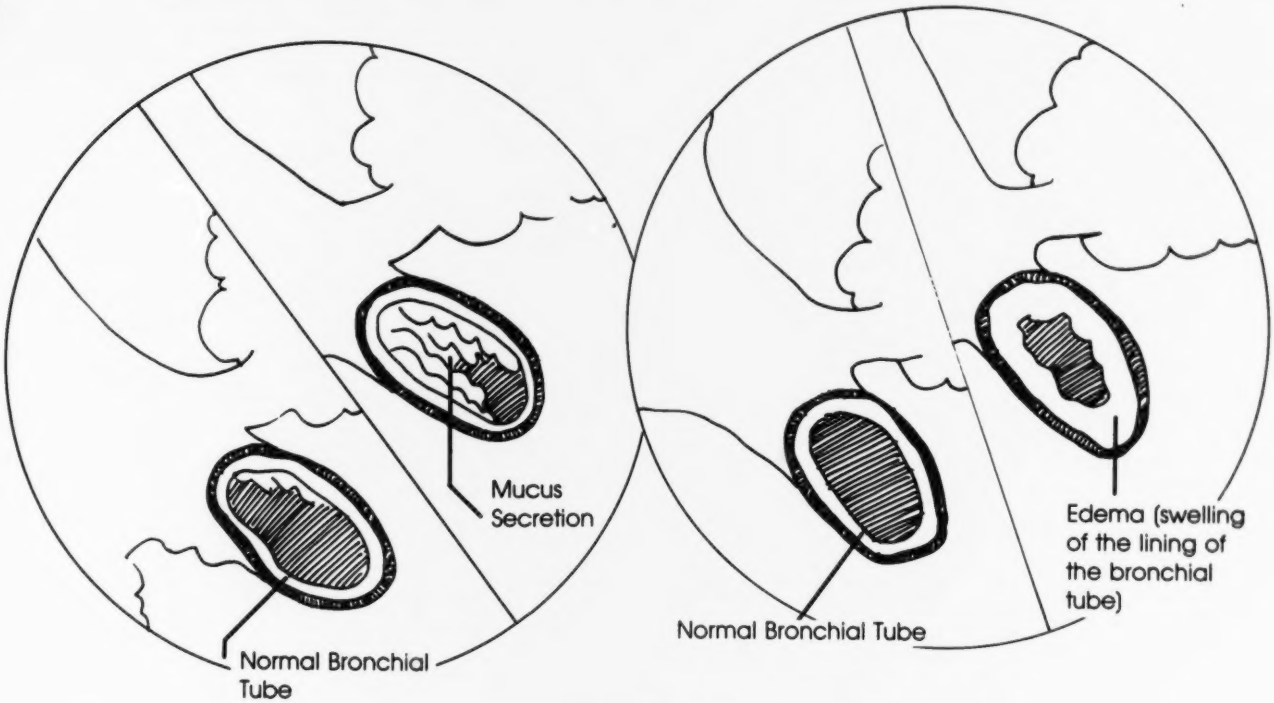

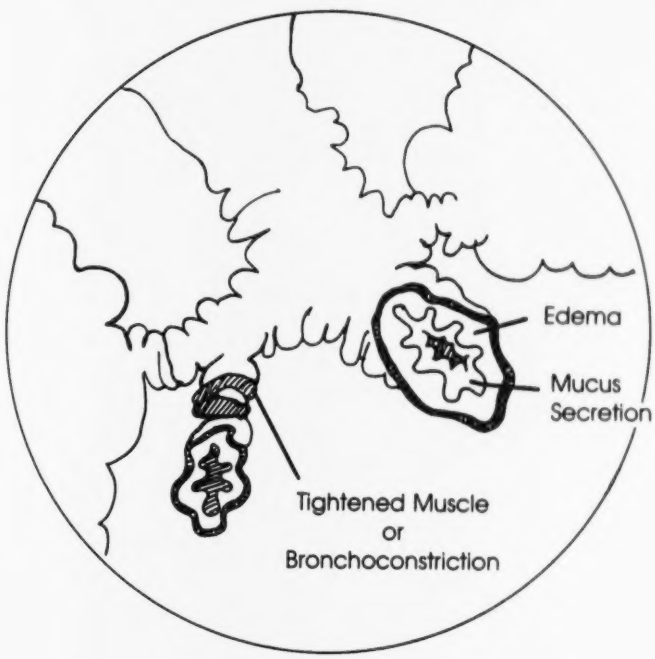

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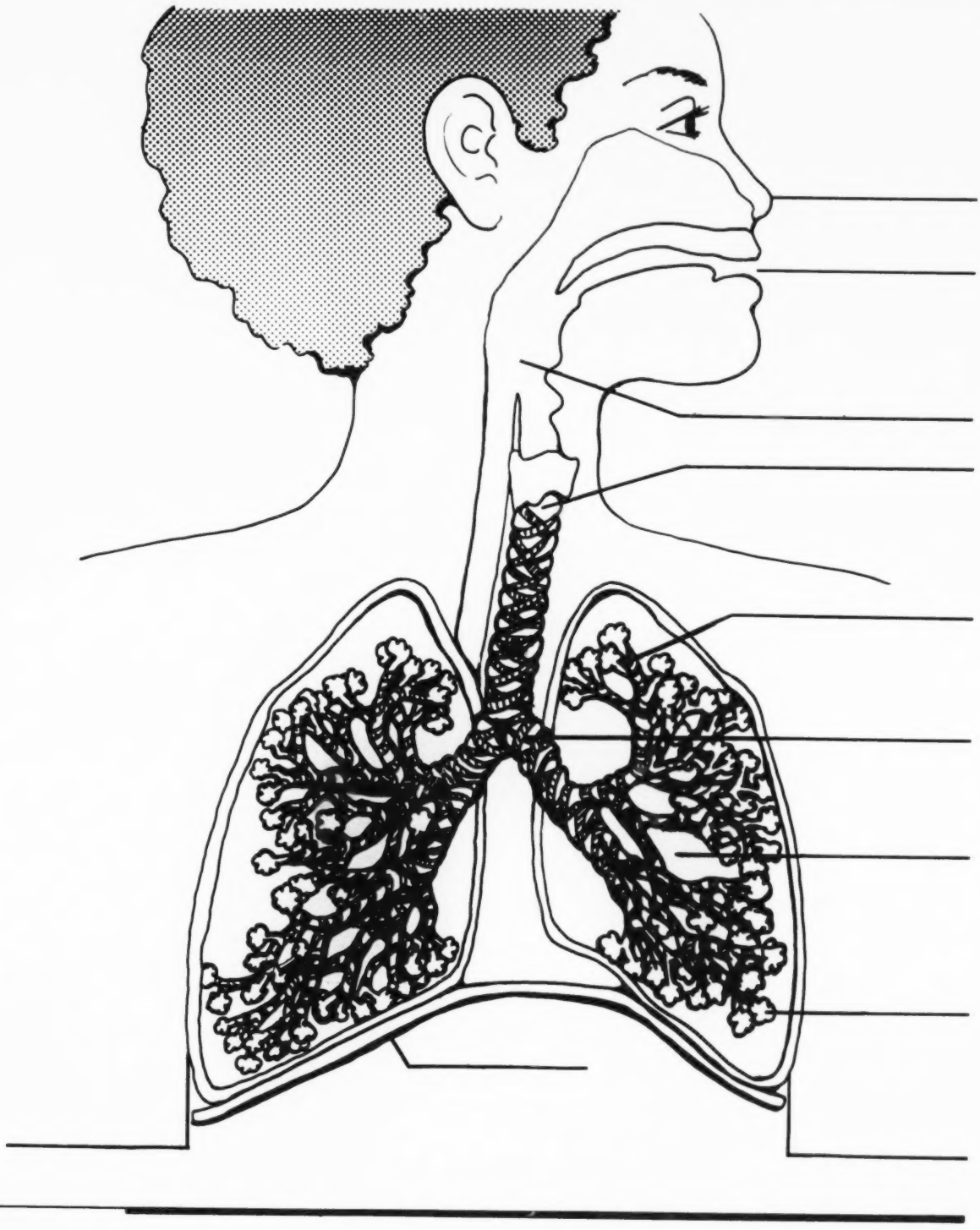

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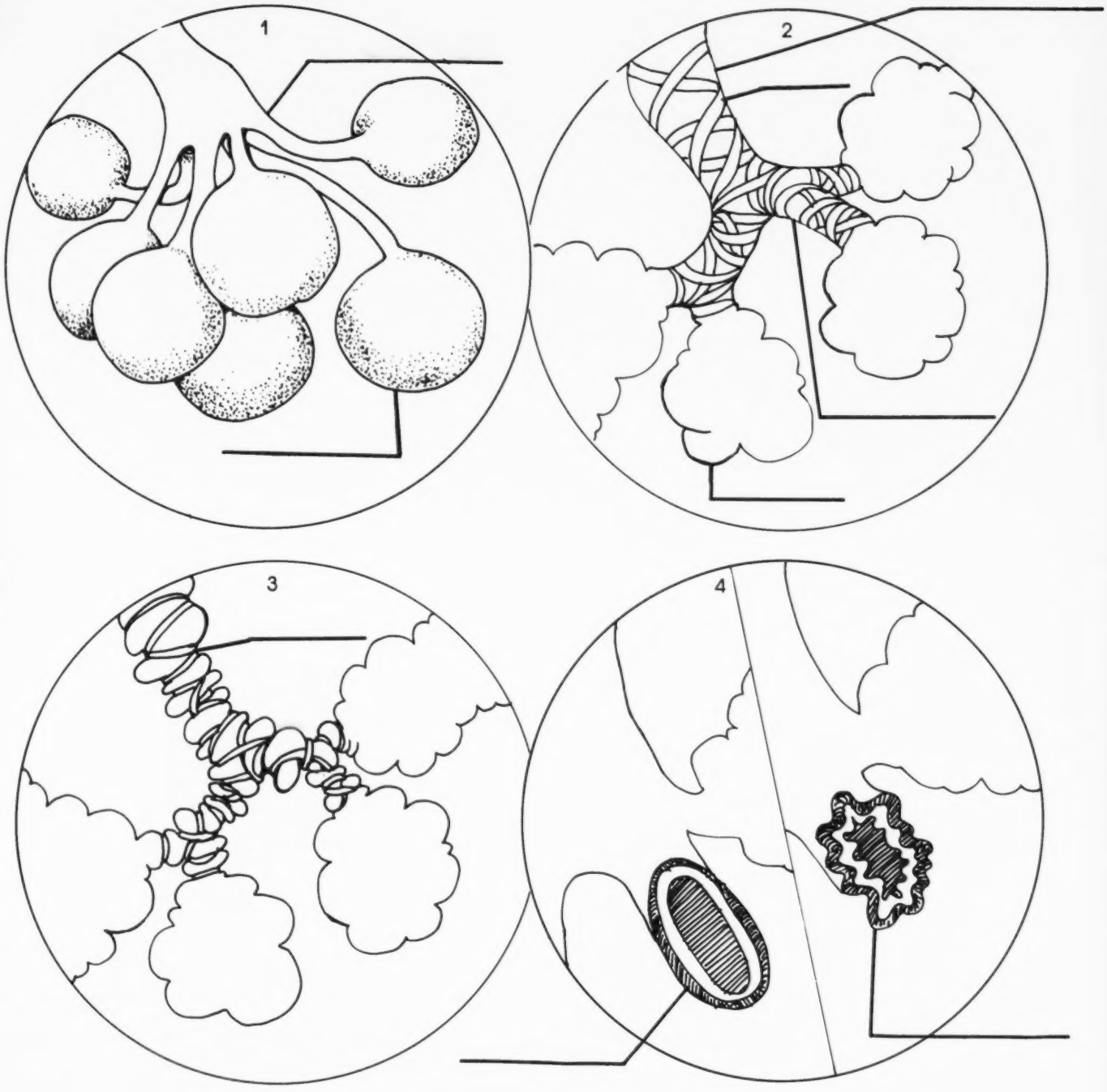

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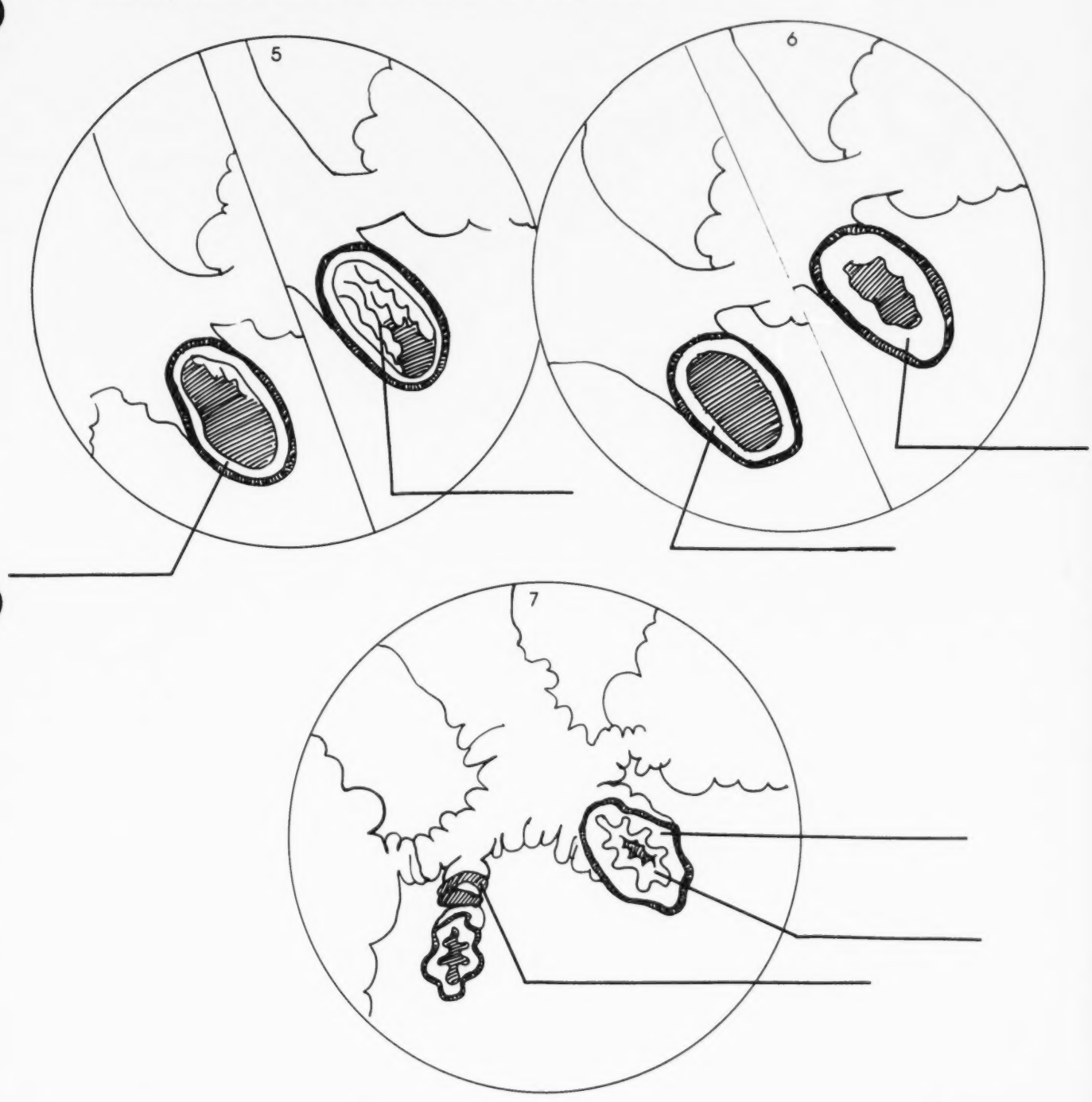


CHILDREN'S **INTERVIEW** FORM

NAME_____ AGE_____

SCHOOL_____ GRADE_____

NAME AND AGES OF PEOPLE LIVING IN YOUR HOUSE:

_____ _____

_____ _____

_____ _____

_____ _____

PETS WHO LIVE AT YOUR HOUSE:

_____ _____

_____ _____

YOUR FAVORITE DESSERT:_____

YOUR FAVORITE COLOR:_____

YOUR FAVORITE ANIMAL:_____

WHAT DO YOU THINK ASTHMA IS?_____

_____

WHAT BOTHERS YOU MOST ABOUT HAVING ASTHMA?_____

_____

_____

HOME ASSIGNMENT—**MEDICATIONS**

NAME_____

List below the names of all the medications you are taking. Then list what form of that medication you are taking (pill, liquid, inhaled form, etc.) and when you take them (twice-a-day, before exercise, 6:00 daily, etc.). Discuss the list with your parents and ask them to help you to spell the names.

Name	**Form**	**When**

CHILDREN'S SESSION TWO

MEDICATIONS

GOALS

- To convey the importance of taking prescribed medications on time in the correct manner: TAKE IT AND TAKE IT ON TIME
- To teach each child the name(s) of his/her medication(s) and when to use them

RESOURCES

Leader Background Material:
- How Asthma Drugs Work
- Drug Information Resources
- Asthma Drug Information Sheets
- Asthma Drug Names
- Inhaled Bronchodilators: Whiffers, Puffers, and Inhalers
- Common Questions about Asthma Drugs
- Asthma Drug Vocabulary
- Helpful Facts about Medications For Asthma
- Take-A-Step Game
- Introducing Marvin Marvelous and the Incomparable Dr. Q
- Sample Asthma Report Form

Supplies:
- Blackboard and chalk, or flipchart and marking pens
- Nebulizers and inhalers for demonstration
- Mats for belly breathing

Handouts:
- Picture of Marvin Marvelous
- Picture of Dr. Q
- To Keep Yourself Healthy
- Diagram of lungs and diaphragm
- How to Practice Belly Breathing
- Asthma Report Form (two for each child)

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome		Name Game
Review	Questions and Discussion	
Medications	Discussion Names of Medications Schedules Feelings about Medications Experiences and Situations	
How Asthma Medicines Work	Short Lecture	
Nebulized Medications	Discussion Use of Nebulizers Cautions and Considerations	
Taking Asthma Medicines		Discussion of Dr. Q's Motto
What is Asthma and Taking Asthma Medicines		Story: Introducing Marvin Marvelous and the Incomparable Dr. Q
Keeping Healthy		Dr. Q's Chart
Belly Breathing	Practice	
Pinpointing Symptoms and Conditions	Asthma Report Forms	
Review		Take-A-Step Game

CHILDREN'S SESSION TWO

MEDICATIONS — TEACHING NOTES

Welcome

- **Greet each child individually.**
- **Praise those who remembered their notebooks.**

Who remembers everyone else's name?

- **Redo the name game if needed.**

Review

Did anyone have trouble breathing this week?
Would you tell us what happened and what you did?

- **Comment favorably on any self-management steps that were taken.**

Last week we learned a lot about breathing, our lungs and asthma. Let's see how much you remember.

- **Allow everyone to contribute answers to each question.**

1. What is asthma?
2. What happens in your lungs when you get an asthma attack?
3. Who can name one thing that you can do to help yourself when you have an asthma attack?
4. Who else can name something?

- **Let as many children as possible name at least one thing.**

5. What are the names of the two big tubes in the lungs?
6. What are the names of the many small tubes in the lungs?
7. What are the names of the thousands of air sacs in the lungs?

- **Go on with the questions as long as the interest remains high.**
- **Praise the group for remembering so much.**

Do you remember the rhyme we learned last week about what to do if you feel like you're getting an attack? Let's say it together:

Think, drink,
Be calm, tell Mom.
Maybe a med, maybe to bed.

Medication Discussion

Be sure that you understand asthma medications. Be familiar with the background materials. If children ask questions that you cannot answer, encourage them to ask their own doctors.

Today we are going to talk about the medicines that you take for asthma. There are many different kinds, and some kids take medication all the time while other kids just take medication every once in a while.

There are lots of different kinds of medicine for asthma. Your doctor knows the best medicine and the right dose especially for you.

Let's look at the sheet you filled out at home and talk about the names of the medicines you take.

▌**Have the children take out their homework assignments on medications and ask them to state the names of their current medications.**

Names of Medicines

▌**Always let the kids try to pronounce the names of their meds before you give corrections or additions.**

Why do you think I want you to know the names of your medicines?

▌**Wait for responses.**

▌**Give reinforcement for positive answers.**

▌**Points to stress:**

▌**It is important for children to know the names of their asthma medicines.**

▌**Children are old enough to be responsible for taking *asthma* medicines. To fulfill this responsibility, children must know the exact names of their own medicines and when to take them.**

▌**Because each child is different, he or she requires different medicines and different amounts of each. Therefore, it is important to know the exact names of the different medicines.**

Summary

The reason for coming to these asthma self-management sessions is to help you learn how to take care of your asthma. An important part of taking care of your asthma is knowing about the medications that help your asthma.

Similarities and Differences in use of asthma medicines

▌**Have everyone name their medicines again and write them on the board.**

Who else takes this kind of medicine?

▌**Point to each name on the board.**

Who uses a nebulizer or inhaler for breathing problems?

Who takes medicines everyday?

Does anyone take medicine only when they have trouble breathing?

▌**Allow time for responses.**

Experiences and feelings

Let's talk for a few minutes about the problems that come up when you have to take medicine.

What kinds of problems do you have?

What do you do when you have to take asthma medicines?

▌**Allow the children time to talk about medicines as much as they want.**

▌**Encourage children to talk about how they feel about having to take medicine.**

▌**Encourage discussion of tastes, taking medicine in school and in front of others, the necessity of taking meds all the time, and side effects and how they make children feel.**

▌**Help find solutions to problems brought up.**

Encourage all children to participate and be sure the following topics are covered:

Summary: topics and sample solutions

Taking medicine in school is often a problem. Many schools have rules about kids keeping their own medicines. That's because lots of youngsters don't know when or how often to take medicine. If this is a problem in your school, suggest to your parents that they talk with your teacher or the school nurse and work out a plan for those times that you need to take your asthma medicines.

Some asthma medicine tastes really bad. If you drink water or juice afterwards it washes that nasty taste away. If you're allowed to have gum or a hard candy, they help, too.

If you have worries about taking medicines, talk them over with your doctor or your parents.

If you feel funny or strange after you take your medicine you may be having *side effects* from the medicine. Be sure to tell your parents if this happens.

How Most Asthma Medicines Work

Substitute names of medications that the kids in the group use.

Most asthma medicines work by relaxing the thin muscles wrapped around the bronchial tubes and bronchioles. The medicines that you inhale or get in a shot work the same way, only they work much quicker than pills or liquids that you swallow. The medicines that you take a couple of times every day, like aminophylline or Theodur, or Choledyl, or Quibron work more slowly.

They are like the slow and steady turtle that wins the race by plodding along. If you take this 'turtle' kind of medicine, it is very important to take it all the time, on time and not to miss a dose. This kind of medicine works best when you have a certain amount of it in your body. As your body is always using it up, you have to keep adding more to make up for what has just been used.

There may come a time when you decide that you don't need the medicine any more because your asthma is better. If this happens to you, be sure to talk to your parents and your doctor about it before you stop taking it. It can be dangerous to stop taking some kinds of medicine all at once.

Nebulizers, Whiffers, Puffers

This topic is optional. If there are only a few who use inhalers, keep the discussion short. Cover only the sections that are relevant to the group.

Answer any questions about how asthma medicines work.

How many of you use asthma medicine that is given in an inhaler form?

Show them samples of nebulizers, whiffers, and puffers.

Bronchodilators compared with cromolyn and steroids

Do you know about the different kinds of asthma medicines that are given in inhaled form?

Allow time for responses so misinformation can be corrected. Reinforce any correct concepts.

Be sure to clarify that vanceril and cromolyn are not bronchodilators even though they are given in inhaled form.

Stress that inhaled steroids and cromolyn should not be used during breathing difficulties.

Correct use of inhalers

This is a good way to learn how much the children know about their inhalers. Do not emphasize this part if few children use them or if proper use is not a problem.

Some leaders may have an "expert" such as a nurse or respiratory therapist demonstrate the correct use of inhalers.

Ask children who do use inhalers to tell the others *how* and *when* they are to use them.

If you are not sure how or when to use your nebulizer or inhaler, be sure to check with your doctor.

Overuse

Does anyone know what may happen if you use inhaled bronchodilator medicines too often?

Do you know how many times in 24 hours you are allowed to use your inhaled bronchodilator medicine? (Refer to names of medicines children have been prescribed.)

Allow time for responses.

Then stress the following points:

1. **Inhalers are dangerous when used too often. If overused, they can cause the bronchial tubes to tighten. They also can delay use of other needed treatments.**
2. **It is important to pay attention to exactly how often in 24 hours an inhaled bronchodilator is used.**
3. **Each child should clearly understand how often he or she can use the inhaled medicine in one 24-hour period. If unsure, the family should check with the physician and clear instructions.**

If you seem to need more than the doctor has told you to use, you should call him or her and find out what to do next. It may be that the other asthma medicines need to be changed or that you need to see the doctor for more testing.

Use before exercise

This may be a time to point out that some doctors prescribe nebulized medications to be used before exercise to prevent asthma episodes or to allow the child to participate in more activities. Stress the concept that a doctor must prescribe them.

Does anyone take an inhaled asthma medicine before exercising?

Does any one get asthma when they exercise?

Introducing Marvin Marvelous and Dr. Q

The way in which these characters are presented will depend on the age level of the children. Even if time is short, it is important to introduce these characters because they reappear in later sessions.

I was talking with a friend of mine telling him all about you in this group. This friend was interested in the group and said that he wished that he'd been able to go to a group like this when he was your age.

Hand out the picture of Marvin Marvelous.

Marvin—Marvin is this friend's name, Marvin Marvelous, in fact—says he learned everything about asthma the hard way. Of course,

he's older now and knows how to take care of his asthma, but he says it sure was hard at first. His doctor helped him a lot though. His doctor is a strange guy. Well, maybe I should say a funny guy. He's a good doctor all right, but a character, if you know what I mean. Want to see a picture of this doctor? Here it is.

Hand out the picture of Dr. Q.

Dr. Q's Motto

If you choose to use the story, omit this portion of the activity.

Yep, that's Dr. Q. See what I mean, he even looks like a character doesn't he? One thing that Dr. Q taught Marvin was his famous motto about medicine. Want ta' hear it? Okay. Every time Marvin went in to see Dr. Q, Dr. Q would say to him as he left, "Now, Marvin, remember one thing, one thing at least. That's my famous motto, TAKE IT AND TAKE IT ON TIME."

_____[use the name of one of your group's participants], can you tell me what Dr. Q's famous motto about medicine is?

That's right. "TAKE IT AND TAKE IT ON TIME."

Be sure motto is repeated several times and that everyone knows it.

Now what do you think that motto means? Who can offer an idea?

Allow time for discussion.

It is about medicine and means that medicines should be taken every time the doctor has prescribed them to be taken, in the way in which he has prescribed them.

Remember last week we talked about things you can do to stay healthy?

Hand out "to keep yourself healthy."

Dr. Q made up this chart. It will remind you of what to do to help prevent an asthma attack. Let's read each one out loud.

Write Dr. Q's chart on the blackboard as you select children to dictate the points to you.

Story: Introducing Marvin Marvelous and the Incomparable Dr. Q.

The part of the story subtitled "Learning about Asthma" is a thinly veiled vehicle for conveying basic information. It can be used instead of lecture for groups of young children.

Other parts contain important self-management messages.

If the group has difficulty reading, read the story to them.

However, if they can read fairly well, have them take turns reading the story.

Assign roles of Dr. Q and Marvin Marvelous, giving as many children as possible a chance to read one of the parts.

When it comes time for Dr. Q to hand out his chart, have the child who is playing Dr. Q give them to the group.

Older children may wish to read the story silently to themselves.

After reading this story and all future Marvin stories, ask the group two basic questions:

How do you feel about what happened in the story?

What messages do you think the story is telling us?

Diaphragmatic Breathing or Belly Breathing

Let's do something different. We are going to learn how to do belly breathing, a special way of breathing that can help you during breathing problems.

Hand out the diagram showing the lungs and diaphragm and discuss where they are located and how they function.

Also explain the location of the abdomen.

Belly breathing can help to train the muscles of your abdomen so it can help your diaphragm when you breathe. Let's try belly breathing. Everyone lie on the floor. Bend your knees and keep your feet on the floor and your arms at your sides.

Now, take a deep breath and let it out slowly. Your chest and stomach go up and down. Now, put one hand on the top part of your chest. Put your other hand on your stomach and breathe in through your nose. Your stomach should go out like a balloon. Your chest should not move.

To practice belly breathing, breathe in through your nose. Make your stomach get round like a ball. Blow all the air out through your mouth with your lips pursed. Use the hand on your stomach to help you push all the air out. Your stomach should be flat.

When you practice belly breathing, do it 10 times, slowly, making sure that your chest remains still.

Everytime you have a hard time breathing, sit, leaning forward with a straight back, arms on your knees. Now, breathe through your nose, then blow all the air out through your mouth slowly, keeping your chest still. Breathing this way may make you feel better and less tired.

You can use the sitting position of belly breathing at times when it would be hard to lie down.

Who remembers how long and when to use belly breathing?

Hand out how to practice belly breathing to put in their notebooks for future reference.

Be sure to practice belly breathing at least 10 times every morning and every evening.

Whenever you start to have trouble breathing during the week, do belly breathing to make you feel better.

Asthma Report Form

Hand out an asthma report form to each child.

This is called an asthma report form. It's kind of like an asthma diary. Each day before you go to bed check off whether you had trouble breathing and if you practiced your belly breathing. If you did have trouble you fill out this part. Let's pretend to be Marvin and we'll fill out his form together.

Have everyone fill out a sample form, using Marvin's as a sample.

Verbally give the children the information from the sample and have them fill out a report from Marvin.

Here's a clean form for you to use during this coming week.

Pass out new forms.

Be sure to bring it with you next time. Together we'll try to figure out what brings on your asthma, how you feel before the attack starts, and what you did to help your breathing.

Why do you think I want you to fill out these forms this week if you have an asthma attack?

Allow discussion to be sure children understand the reasons for the forms.

Reason for Completing Asthma Report Forms

Right! Filling in the information on the forms will help you become more aware of when you have asthma episodes and recognize how your body acts during asthma. You can discover patterns of events that occur before or along with your attacks. Then, you'll learn what to do to prevent them or help them get better.

Final Activities

Choose 1 or 2 depending on time remaining and group preference.

Color Pictures of Dr. Q and Marvin.

Take-A-Step Game.

(See instructions in leader background material.)

Reminders

It looks like it's time to go. Don't forget to bring your notebooks (or folders) next time.

Remember to fill out your Asthma Report Forms during the week and bring them with you.

Don't forget to practice belly breathing.

See you next week.

How Asthma Drugs Work

This is a brief review of the main classes of asthma drugs and some of the self-management information that is important for each class.

Xanthines

mode of action

The xanthines are believed to reverse airway obstruction by increasing the amount of a chemical in smooth muscle cells called cyclic AMP. Cyclic AMP relaxes the smooth muscles in the airways and thereby allows the air passages to open up or dilate. For this reason, the xanthines are called bronchodilator drugs.

generic types

Four generic types of drugs belong to the xanthine class. One is theophylline, a very common xanthine drug. Over 55 brand names of theophylline are available. The other three generic types in the xanthine group are aminophylline, dyphylline, and oxtriphyllin. There are over 20 brand names that cover the other three generic types in the xanthine group. (Consult the Asthma Drug Names list for specifics.)

combinations

Theophylline is sometimes combined with other antiasthma medications. These combination medications are available under a variety of brand names.

dosage forms

Theophylline and other xanthines are usually given by mouth. The medical term for this is "taken orally." However, in severe attacks a xanthine may be given intravenously. Xanthines can also be given rectally in the form of an enema. Although aminophylline suppositories are available, they are not recommended for children.

concept of therapeutic level

In order for a drug to work effectively to keep the airways open, and to protect against an asthma attack, it must be present in a certain level in the blood. This is known as the "therapeutic level." If the amount is lower than the therapeutic level, the drug becomes less effective. If the amount is higher than the therapeutic level, side effects are more likely to occur.

checking blood levels

The effectiveness of theophyllines and other xanthines is related to the level in the blood. Therefore, the doctor may take occasional blood samples from the patient to check the amount of theophylline in the blood. The dose can then be adjusted if the blood amount is too high or too low.

regular doses needed

In most children, the effectiveness of theophylline or other xanthines lasts from 4 to 8 hours. Therefore, the drug has to be taken several times a day at regular intervals in order to control the asthma. Since children metabolize the drug faster than do adults, taking the medicine on time is important. Special long-acting forms are available that may make it necessary to take the drug fewer times each day.

side effects

Fortunately, theophyllines and other xanthines do not appear to lose their effectiveness with long-term use and do not have serious long-term side effects. However, there are acute side effects that can be produced when the dosage is too high. These involve the stomach and the nervous system. The effects on the stomach include nausea, vomiting, loss of appetite, and stomach aches. The effects on the nervous system include irritability, dizziness, and changes in personality. When any of these symptoms occur, side effects from the xanthine drugs should be suspected. Xanthines also tend to irritate the stomach and intestines.

Some preparations containing xanthines have a high alcohol content, and young children may experience side effects from the alcohol ingredient. Therefore, it is a good idea to check the ingredient list.

In most children, doses of theophylline-like drugs can be adjusted so control of asthma can be obtained without having unacceptable side effects.

interactions

Erythromycin or troleandromycin may cause the blood level of theophylline-like drugs to increase. Cimetidine, a drug used to treat ulcers, also acts to increase the blood-level of xanthines. In contrast, smoking causes the blood level of theophylline to *decrease* at a faster than normal rate.

self-management

Some important points to remember when using theophylline or other xanthines for asthma:

1. The medicine should be taken exactly as prescribed, which is usually at equally spaced intervals spread over a 24-hour period.
2. Theophyllines and other regularly prescribed xanthines should be taken even when the child is feeling well so the blood levels of the drug can be kept in the therapeutic range at all times.
3. Side effects should be reported to the doctor so he/she can regulate the dosage to minimize or avoid side effects.
4. If irritation to the stomach or intestines occurs, it may be minimized by taking theophylline or other xanthine drugs with milk, crackers, or other foods.
5. Check with the doctor if your child smokes or is taking certain antibiotics. Under these conditions, the blood level of theophylline-like drugs may increase or decrease at a faster than normal rate and the dose may need to be adjusted to keep the blood levels in the therapeutic range.

Adrenergic Bronchodilators

mode of action

Adrenergic drugs are also bronchodilators. They work to relax and open the airways by acting on tiny parts of nerve cells called receptor sites. These sites are part of the involuntary "adrenergic" nervous system, the term that gives this class of drugs their name.

There are three main types of receptors. They are called alpha, beta-1, and beta-2 receptors. These receptor sites are located in the airways, but they are also found in other parts of the body as well, including inside the heart muscle and muscles in the arms and legs.

Some adrenergic drugs act on all three types of receptors, but some types of adrenergics are more selective and predominantly influence only one or two types of receptors. It is thought that the most effective bronchodilator drugs are the ones that primarily influence the beta-2 receptors. These drugs cause fewer side effects than the ones that act on only two or all three type of receptors.

"Sympathomimetic" is another name for "adrenergic," and sometimes the adrenergic drugs are called the sympathomimetic bronchodilator drugs.

generic names

The adrenergic bronchodilator drugs include several different type of medicines. Their generic names are known as albuterol, ephedrine, epinephrine, ethynorephinephrine, isoetharine, isoproterenol, isoproterenol with phenylephrine, metaproterenol, and terbutaline. Each is known by one or more brand names. Some are taken by mouth or given by a doctor by injection. Some are also available as inhaled forms.

examples

Epinephrine is an example of an adrenergic drug that acts on all three types of adrenergic receptors. It is one of the most powerful bronchodilator drugs. However, its use is limited by the fact that it is not effective if taken by mouth. Therefore, it must be given by injection or by inhalation. In addition, epinephrine acts only for a short time, usually not more than one hour. For these reasons, epinephrine has no place in the everyday treatment of asthma and is reserved for emergency use to treat acute attacks.

Epinephrine is also known as adrenalin. Its side effects include increased heart rate, blanching of the skin, headache, nervousness, and sometimes nausea and vomiting. These side effects usually do not last for more than 15 or 20 minutes. Because of these problems, epinephrine injections are generally not given closer than 20 minutes apart.

examples

Isoproterenol is an example of an adrenergic drug that influences primarily beta-1 and beta-2 receptors.

Isoproterenol is usually given by inhalation. An effective way to give this drug is by an air compressor unit that creates a mist to be inhaled. Small, pocket-sized nebulizers are also available and are convenient to use when the patient is away from home.

However, the portable nebulizers are easy to overuse. This may create a potentially dangerous situation because *overuse* of certain inhaled adrenergic bronchodilators can lead to *constriction* of the bronchial tubes and to a worsening of the asthma attack. This is known as paradoxical bronchoconstriction.
If your child carries a portable nebulizer containing isoproterenol, metaproterenol, or other adrenergic bronchodilator drugs, it is important for parents to keep track of how often the nebulizer is being used. Other adrenergic bronchodilator drugs that come in inhaled forms include albuterol, isoetharine, and epinephrine.

Isoproterenol is similar to epinephrine in its side effects.

Examples of adrenergic bronchodilator drugs that influence primarily beta-2 receptors include metaproterenol, terbutaline, isoetharine, and albuterol.

self-management

Some important points to remember when using adrenergic bronchodilator drugs:

1. The correct use and cleaning of the metered-dose inhaler are important.
   Be sure the child knows how to use the nebulizer or metered dose inhaler correctly. Ask the doctor to demonstrate the correct use if the child is uncertain.
2. Do not overuse inhaled adrenergic bronchodilators during an attack.
   Too much could cause a tightening of the bronchial tubes. Be sure that your child does not use these medications more than the amounts and times stated in the package directions.

Cromolyn Sodium

mode of action

Cromolyn does not dilate the bronchial tubes. Instead it works to prevent asthma attacks by inhibiting the production/release of body substances that create allergic reactions in the lungs. In some individuals, asthma attacks occur because of allergic reactions in the lungs. Cromolyn acts to lessen the response of the lung to allergic triggers.

Therefore, cromolyn is used to *prevent* bronchoconstriction but *cannot treat* or reverse bronchoconstriction once it has occurred. Cromolyn is useful only when taken regularly to prevent attacks. It has no effect after wheezing starts. Cromolyn is not a bronchodilator.

Cromolyn is taken by an inhaler. It can be taken as a dry powder or as a solution. Special equipment is needed to administer cromolyn, and it is sometimes cumbersome to take this drug.

In some children, inhalation of the powder provokes coughing which can aggravate asthma. In addition, for unknown reasons, some children respond very well to cromolyn while for others the drug has no effect in controlling the asthma.

However, the response to cromolyn takes time to show up. Often a person must take cromolyn regularly for 1 or 2 months before any effect is seen. If no benefit is experienced in about 3 months, then it may be assumed that the person just is not responding to the cromolyn.

self-management

Some important points to remember about the use of cromolyn:

1. Cromolyn should not be used during an asthma attack.
2. Correct use and cleaning of the inhaler equipment is important.
3. Cromolyn must be taken regularly for 1 or 2 months before the effects may show up.

Adrenocorticoids

mode of action

Steroids decrease inflammation and thereby work to reduce swelling and allergic reactions in the lungs. Steroids are also believed to increase slightly the production of cyclic AMP which acts to dilate the bronchial tubes through the relaxation of bronchial smooth muscle.

examples

The group of drugs known as steroids are all related to cortisol, the hormone that is produced by the "cortex" or center of the adrenal gland. Therefore, this class of drugs is often called the "adrenocorticoids" or the "corticosteroids." Cortisone was the first synthetic corticosteroid. Its structure is very closely related to cortisol and is readily converted in the body to cortisol. In addition to cortisone, a number of other closely related synthetic compounds are also used including prednisone, prednisolone, methylprednisolone, dexamethasone, and triamcinolone. They are known by a variety of brand names.

The steroid hormones are strong asthma drugs. However, their potential for causing side effects limits their long-term use.

side effects

It is important to remember that the side effects which arise with steroid treatment depend very much on the level of the dose and on how long the steroids are taken. Major side effects, such as growth suppression, take months to develop. Therefore, treatment for a few days or a few weeks to help a child over an acute flare-up is a safe procedure that rarely causes problems. Other side effects, such as the tendency to gain weight, disappear when the steroids are stopped.

When steroids must be used on a regular basis, the chance for developing side effects is greatest when the drug is taken several times a day and less if the entire dose is taken once a day, preferably, in the morning. The incidence of side effects can often be reduced still further if steroids are given every other day. Many children are able to take alternate day steroids for long periods of time with no serious side effects.

There are many side effects of steroids. Three of most concern for children are especially associated with long-term use and with the higher doses that are taken by mouth.

1. Changes in body shape.

   Steroids often stimulate appetite so weight gain is common. They also change the normal distribution of body fat, shifting it to the face and trunk, so that a round-faced, round-bodied look develops. This effect is reversible when the drug is reduced or stopped.

2. Reduced growth rate.

   Prolonged use of steroids can interfere with the growth rate of the long bones of the body and thus can affect the growth rate of a child who takes oral ste-

roids for a long period of time. However, even after long periods of suppression by steroids, growth usually resumes when steroids are reduced or stopped.

3. Adrenal suppression

   The adrenal glands are the body's natural source of cortisol. When cortisol-like drugs are given for extended periods of time, the adrenals may become "lazy" and stop their own production of cortisol. If the drug is discontinued abruptly after a long period of treatment, it takes time for the adrenals to begin to function again. During this interim period, a person may have trouble handling stressful situations because their natural supply of corticosteroids is very low. To avoid this problem, people who are discontinuing steroids will be prescribed gradually decreasing doses at the end of their treatment period. This gives the adrenal glands time to renew their production of cortisol.

Inhaled Steroids

effect

In recent years, several types of steroids have been made available in inhaled forms. These are sprayed directly into the lungs where they exert most of their action. This means of delivery puts the drug exactly where it is going to work and avoids many of the side effects that occur when steroids are taken by mouth. Oral steroids enter the body through the digestive system which then admits the drug to the bloodstream which then carries the steroids to various parts of the body in addition to the lungs. Therefore oral steroids reach and affect many parts of the body and can cause more side effects than the inhaled steroids.

The inhaled steroids are sometimes difficult to use for small children, and long-term use may irritate the throat. Also inhaled steroids are not meant to be used to treat severe, acute attacks.

self-management

Some considerations for the use of steroids in asthma management:

For inhaled steroids:

1. To prevent getting fungal infections in the mouth, gargle with water after each use.
2. If white patches, a sign of fungal infection, do appear on the tongue, consult a doctor. He/she can prescribe an antifungal medication.
3. Inhaled steroids should not be used during an attack. This may only make the attack worse.
4. Cleaning and correct use of the metered dose inhaler is important.

For oral steroids:

1. Use of oral steroids should not be stopped all of a sudden. Instead, the dose should be tapered off gradually. The doctor will prescribe the proper decreases in dose when it is time to stop, but a patient should not stop abruptly by himself/herself.
2. Also, when a patient switches from an oral steroid to an inhaled steroid, the process should be gradual.
3. The doctor should be informed of any side effects.

DRUG INFORMATION RESOURCES

As a special service to asthma self-management programs, the United States Pharmacopeial Convention (USPC) has created a special series of asthma drug information sheets. The USPC is an independent, nonprofit organization that sets the official standards for strength, quality, purity, packaging, and labeling of medical products in the United States.

The drug information sheets may be used as background reading for the teacher and appear on the following pages. The information was written generally for all persons who use asthma drugs. Therefore, certain statements that pertain to the use of the drugs during pregnancy and lactation apply, obviously, to adults only.

Each sheet covers a single generic type or a closely related group of asthma drugs. Written in easy-to-understand language, each covers proper use of the medicine, precautions to take, side effects, and interactions with other drugs. All have been carefully reviewed by national expert committees assembled by the USPC and will be updated annually to include any new information that may be useful to patients.

These information sheets come in 5½ × 8½-inch pads containing 50 sheets each. The cost is normally $1.65 per pad, but volume discounts are available. Currently, there are six titles in the asthma series: (1) Xanthine Bronchodilators (Oral); (2) Adrenergic Bronchodilators (Oral/Injection); (3) Adrenergic Bronchodilators (Inhalation); (4) Adrenocorticoids (Oral); (5) Adrenocorticoids (Inhalation); and (6) Cromolyn (Inhalation). These information pads can be ordered directly from the USPC. However, with special permission from the USPC, the information sheets have been included in this manual as a reference for asthma self-management group leaders.

For persons who desire detailed information about medicines, three reference titles may be obtained from the USPC:

1. *USP DI: Volume I. Drug Information for the Health Care Provider.* $35.95* (1985, 1,411 pages).
   Organized by generic name, this 8½ × 11-inch volume provides technical information about the pharmacology, brand names, indications for use, dosage forms, and timing of effects of each drug (how long it takes to act and how long before its effects begin to wear off) in addition to giving more detailed information about each of the categories covered in the patient information sheets. Over 600 monographs covering most drugs available in the United States and Canada are included. This compendium is updated yearly, and bimonthly updates of new information are also available.
2. *USP DI: Volume II. Advice for the Patient.* $21.95* (1985, 1,041 pages).
   Also organized by generic name, this 8½ × 11-inch volume gives easily understandable information about the proper use of each medicine, precautions to take, side effects, and interactions with other drugs, and gives lists of common brand names. It is updated yearly. Over 500 monographs covering most drugs available in the United States and Canada are included.
3. *About Your Medicines.* $5.95* (1984, 399 pages)
   This book is similar to *Vol. II Advice for the Patient* because information is presented in the same style and format. However, only the most commonly used types of drugs are covered, as it is designed for home reference. It contains over 200 monographs.

*Prices as of March 1985. Maryland residents add 5% sales tax.

The three reference books plus the asthma drug information sheets may be ordered directly from:

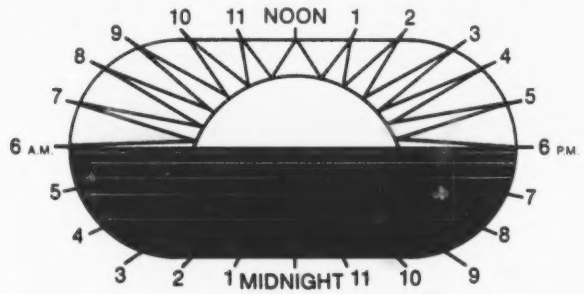
Order Processing Department
The United States Pharmacopeial Convention
12601 Twinbrook Parkway
Rockville, Maryland 20852
Phone: (301) 881-0666

Adrenergic Bronchodilators (Oral/Injection)

Including Albuterol ☐; Ephedrine ☐; Epinephrine ☐; Ethylnorepinephrine ☐; Isoproterenol ☐; Metaproterenol ☐; and Terbutaline ☐.

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____



About Your Medicine

Adrenergic bronchodilators are given by mouth or by injection to treat the symptoms of bronchial asthma, chronic bronchitis, and emphysema. They relieve cough, wheezing, shortness of breath, and troubled breathing by increasing the flow of air through the bronchial tubes or air passages.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine, especially atenolol; metaprolol; monoamine oxidase (MAO) inhibitors (isocarboxazid, pargyline, phenelzine, or tranylcypromine); nadolol; other medicine (including oral inhalations) for asthma or breathing problems; pindolol; propranolol; timolol; or tricyclic antidepressants (medicine for depression);
- have any other medical problems, especially heart or blood vessel disease or high blood pressure.

Proper Use of This Medicine

Use this medicine only as directed. Do not use more of it and do not use it more often than your doctor ordered. To do so may increase the chance of side effects.

Adrenergic bronchodilators, especially ephedrine, may cause some people to have trouble in sleeping. To help prevent this, **take the last dose for each day a few hours before bedtime.**

For patients using epinephrine injection: Do not use if the solution turns pinkish to brownish in color or if it becomes cloudy.

If you are using this medicine regularly and you miss a dose, use it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

Precautions While Using This Medicine

If you still have trouble breathing after using this medicine, or if your condition gets worse, check with your doctor at once.

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Chest pain
- Irregular heartbeat

Possible signs of overdose

- Dizziness (severe)
- Headache (continuing or severe)
- Increase in blood pressure (severe)
- Nausea or vomiting (continuing or severe)
- Unusual nervousness or restlessness
- Unusually fast or pounding heartbeat (continuing)
- Weakness (severe)

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Dizziness or lightheadedness
- Headache
- Increase in blood pressure
- Nausea or vomiting
- Nervousness or restlessness
- Trembling
- Trouble in sleeping
- Unusual increase in sweating
- Unusually fast or pounding heartbeat
- Weakness

Metaproterenol may cause a bad taste in your mouth. This may be expected and will go away when you stop using this medicine.

Isoproterenol may cause the saliva to turn pinkish to red. This is to be expected while you are using the sublingual (under-the-tongue) form of this medicine.

Side effects are more likely to occur in elderly patients who are usually more sensitive to the effects of these medicines.

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

The information in this leaflet has been selectively abstracted from *USP DI* for use as an educational aid and does not cover all possible uses, actions, precautions, side effects, or interactions of this medicine.

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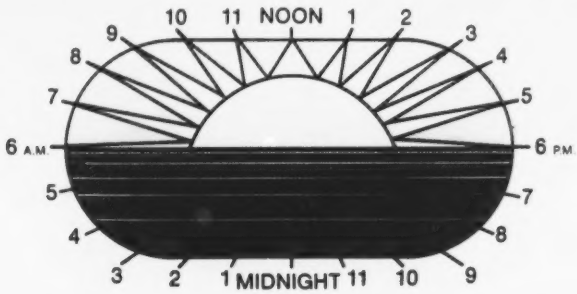
Adrenergic Bronchodilators (Aerosol Inhalation)

Including Albuterol ☐; Epinephrine ☐; Isoetharine ☐; Isoproterenol ☐; Isoproterenol and Phenylephrine ☐; and Metaproterenol ☐.

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____



About Your Medicine

Adrenergic bronchodilators are taken by oral inhalation to treat the symptoms of bronchial asthma, chronic bronchitis, and emphysema. They relieve cough, wheezing, shortness of breath, and troubled breathing by increasing the flow of air through the bronchial tubes or air passages.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine, especially atenolol; metaprolol; nadolol; other medicine (including oral inhalations) for asthma or breathing problems; pindolol; propranolol; timolol; or tricyclic antidepressants (medicine for depression);
- have any other medical problems, especially heart or blood vessel disease or high blood pressure.

Proper Use of This Medicine

Use this medicine only as directed. Do not use more of it and do not use it more often than recommended. To do so may increase the chance of side effects.

Some of these preparations may come with patient directions. Read them carefully before using this medicine.

Keep spray away from the eyes.

Do not take more than 2 inhalations of this medicine at any one time, unless otherwise directed by your doctor. Allow 1 to 2 minutes after the first inhalation to make certain that a second inhalation is necessary.

Save your applicator. Refill units may be available.

Store away from heat and direct sunlight. Do not puncture, break, or burn container.

If you are using this medicine regularly and you miss a dose, use it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

Precautions While Using This Medicine

If you still have trouble breathing after using this medicine, or if your condition gets worse, check with your doctor at once.

If you are also using an adrenocorticoid inhaler to help you breathe better, use it a few minutes after using this medicine, unless otherwise directed.

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Chest pain
- Irregular heartbeat

Possible signs of overdose

- Dizziness (severe)
- Headache (severe)
- Increase in blood pressure (severe)
- Nausea or vomiting (severe)
- Unusual nervousness or restlessness
- Unusually fast or pounding heartbeat (continuing)
- Weakness (severe)

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Dizziness or lightheadedness
- Dryness or irritation of mouth and throat
- Headache
- Nausea or vomiting
- Nervousness or restlessness
- Trembling
- Trouble in sleeping
- Unusual increase in sweating
- Unusually fast or pounding heartbeat
- Weakness

Isoproterenol or isoproterenol and phenylephrine combination may cause the saliva to turn pinkish to red. This is to be expected while you are using the inhalation form of this medicine.

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

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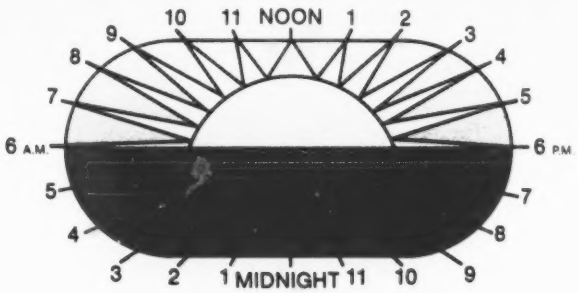
Adrenocorticoids (Oral)

Including Betamethasone ☐; Cortisone ☐; Dexamethasone ☐; Hydrocortisone ☐; Methylprednisolone ☐; Paramethasone ☐; Prednisolone ☐; Prednisone ☐; and Triamcinolone ☐.

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____



About Your Medicine

Adrenocorticoids (cortisone-like substances) are produced naturally by the body and are necessary to maintain good health. If your body does not make enough, your doctor may have prescibed this medicine to help make up the difference. Cortisone-like medicines are used also to provide relief for inflamed areas of the body. They are often used as part of treatment for a number of different diseases such as severe allergies or skin problems, asthma, or arthritis.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine, especially antihypertensives (high blood pressure medicine), digitalis glycosides (heart medicine), diuretics (water pills), or medicine for diabetes;
- have any other medical problems, especially diabetes, heart disease, herpes simplex of the eye, infections (fungal), myasthenia gravis, stomach ulcer or other stomach problems, or tuberculosis (active, nonactive TB, or history of) .

Proper Use of This Medicine

Use this medicine only as directed. Do not use more or less, more often, or for a longer period of time than ordered. To do so may cause unwanted effects.

If you miss a dose of this medicine, and your dosing schedule is one dose:

- Every other day—Take as soon as possible if you remember it the same morning, then go back to your regular schedule. If you do not remember until that afternoon, wait and take it the following morning. Then skip a day.
- Once a day—Take as soon as possible, then go back to your regular schedule. If you do not remember until the next day, skip the missed dose.
- Several times a day—Take as soon as possible, then go back to your regular schedule. If you do not remember until your next dose, double it.

Precautions While Using This Medicine

Do not stop using this medicine without first checking with your doctor. You may have to gradually reduce your dose before stopping completely.

Tell the doctor in charge that you are using this medicine:

- before having a vaccination, other immunizations, or skin tests.
- before having any kind of surgery or emergency treatment.
- if you get a serious infection or injury.

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Decreased or blurred vision
- Frequent urination
- Increased thirst
- Skin rash

With high-dose or long-term use

- Acne
- Back or rib pain
- Bloody or black tarry stools
- Continuing infections
- Continuing stomach pain or burning
- Fever or sore throat
- Filling out of face
- Irregular heartbeats
- Menstrual problems
- Mood changes
- Muscle cramps
- Muscle weakness
- Nausea or vomiting
- Seeing light halos
- Swelling of feet
- Unusual tiredness

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Increase in appetite
- Indigestion
- Nervousness
- Restlessness
- Trouble in sleeping
- Weight gain

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

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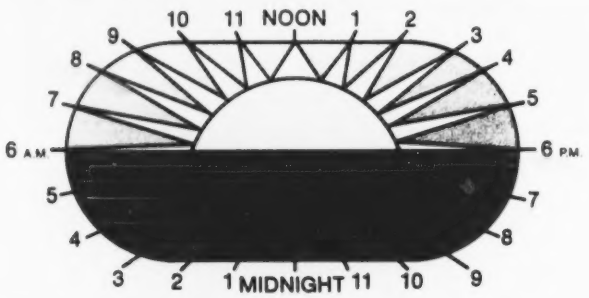
Adrenocorticoids (Inhalation)

Including Beclomethasone ☐; Dexamethasone ☐; Flunisolide ☐; and Triamcinolone ☐.

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____



About Your Medicine

Beclomethasone (be-kloe-METH-a-sone), **dexamethasone** (dex-a-METH-a-sone), **flunisolide** (floo-NISS-oh-lide), and **triamcinolone** (trye-am-SIN-oh-lone) are adrenocorticoids (cortisone-like medicines). These medicines are used to help prevent asthma attacks. They will not help an attack that has started.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine;
- have any other medical problems.

Proper Use of This Medicine

In order for this medicine to help you, it must be taken every day in regularly spaced doses as ordered by your doctor. One to four weeks may pass before you feel its full effects.

Do not use this medicine more often than ordered. To do so may increase the chance of absorption through the lungs and the chance of side effects.

This medicine is used with a special inhaler and usually comes with patient directions. **Read the directions carefully before using.** Store the container away from heat and direct sunlight. Do not puncture, break, or burn.

If you miss a dose of this medicine, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

Precautions While Using This Medicine

If you are also taking another adrenocorticoid (for example, cortisone, prednisone) for your asthma along with this medicine, do not stop taking the other one without your doctor's advice, even if your asthma seems better. If your doctor tells you to reduce or stop taking your other adrenocorticoid, check with him or her if you notice any of the following side effects:

- Abdominal or back pain
- Dizziness or fainting
- Fever
- Muscle or joint pain
- Nausea or vomiting
- Prolonged loss of appetite
- Shortness of breath
- Unusual tiredness or weakness
- Unusual weight loss

Also check with your doctor if you go through a period of unusual stress or if you have a severe asthma attack.

If you are also using a bronchodilator inhaler, use it first, then wait 20 to 30 minutes before using this medicine, unless otherwise directed by your doctor.

Check with your doctor:

—if signs of mouth, throat, or lung infection occur.

—if you do not get better within four weeks or if you get worse.

For patients who have used adrenocorticoids in the past:

- Your doctor may want you to carry a medical identification card stating that you are using this medicine and may need additional medicine during times of unusual stress or a severe asthma attack.
- **Tell the doctor in charge that you are using this medicine before having any kind of surgery (including dental surgery) or emergency treatment.**

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Creamy white, curd-like patches inside the mouth

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Cough
- Hoarseness
- Skin rash
- Throat irritation

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

The information in this leaflet has been selectively abstracted from *USP DI* for use as an educational aid and does not cover all possible uses, actions, precautions, side effects, or interactions of this medicine.

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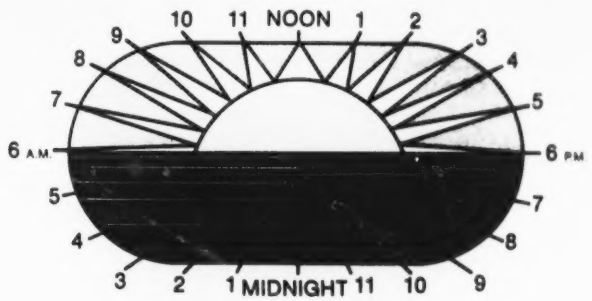
Cromolyn (Inhalation)

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____



About Your Medicine

Cromolyn (KROE-moe-lin) is taken by oral inhalation to prevent asthma attacks. It is also used before and during exposure to substances that cause allergic reactions to prevent bronchospasm (wheezing or difficulty in breathing). In addition, this medicine is used to prevent bronchospasm caused by exercise.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are using the capsule form of cromolyn and are allergic to lactose, milk, or milk products;
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine;
- have any other medical problems.

Proper Use of This Medicine

Cromolyn inhalation is used to prevent asthma or bronchospasm attacks. It will not relieve an attack that has already started. If this medicine is used during a severe attack, it may cause irritation and make the attack worse.

Use cromolyn inhalation only as directed. Do not use more of it and do not use it more often than your doctor ordered. To do so may increase side effects.

In order for cromolyn to work properly, it must be inhaled every day in regularly spaced doses as ordered by your doctor. Up to 4 weeks may pass before you feel the full effects of the medicine.

If you miss a dose of this medicine, take it as soon as possible. Then take any remaining doses for that day at regularly spaced intervals. Do not double doses.

For patients using the capsule form of cromolyn for inhalation:

- This medicine is used with a special inhaler and usually comes with patient directions. Read the directions carefully before using.
- **Do not swallow the capsules. The medicine will not work this way.**

For patients using the solution form of cromolyn for inhalation:

- Use this medicine only in a power-operated nebulizer with an adequate flow rate and equipped with a face mask or mouthpiece. Make sure you understand exactly how to use it. Hand-operated nebulizers are not suitable.

Precautions While Using This Medicine

If your symptoms do not improve or if you get worse, check with your doctor.

If you are also taking an adrenocorticoid (cortisone-like medicine) for your asthma along with this medicine, do not stop taking the adrenocorticoid even if your asthma seems better unless told to do so by your doctor.

If you are also using a bronchodilator inhaler, use the bronchodilator first. Then wait 20 to 30 minutes before using cromolyn, unless otherwise directed.

Dryness of the mouth, throat irritation, and hoarseness may occur after using this medicine. Rinsing the mouth after each dose may help prevent these effects.

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Chest pain
- Chills
- Difficult or painful urination
- Dizziness
- Frequent urge to urinate
- Headache (severe or continuing)
- Increased wheezing
- Joint pain or swelling
- Muscle pain or weakness
- Nausea or vomiting
- Skin rash, hives, or itching
- Swelling of the lips and eyes
- Tightness in chest
- Troubled breathing
- Trouble in swallowing
- Unusual sweating

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Cough
- Hoarseness

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

The information in this leaflet has been selectively abstracted from *USP DI* for use as an educational aid and does not cover all possible uses, actions, precautions, side effects, or interactions of this medicine.

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Xanthine Bronchodilators (Oral)

Including Aminophylline ☐; Dyphylline ☐; Oxtriphylline ☐; and Theophylline ☐.

Take _____

- ☐ At the time (s) shown below
- ☐ 1 hr. before or 2 hrs. after food
- ☐ With or immediately after food
- ☐ At bedtime only
- ☐ Only when needed but not more than _____
- ☐ _____
  _____

About Your Medicine

Xanthines belong to the group of medicines called bronchodilators. They are given to treat the symptoms of bronchial asthma, chronic bronchitis, and emphysema. They relieve wheezing, shortness of breath, and troubled breathing.

If any of the information in this leaflet causes you special concern or if you want additional information about your medicine and its use, check with your doctor, pharmacist, or nurse. **Remember, keep this and all other medicines out of the reach of children and never share your medicines with others.**

Before Using This Medicine

Tell your doctor and pharmacist if you . . .

- are allergic to any medicine, either prescription or nonprescription (OTC);
- are pregnant or intend to become pregnant while using this medicine;
- are breast-feeding an infant;
- are taking any other prescription or nonprescription (OTC) medicine;
- are going to receive an influenza (flu) vaccine;
- smoke or have smoked tobacco or marijuana within the last 2 years;
- have any other medical problems, especially stomach ulcer (or history of) or other stomach problems.

Proper Use of This Medicine

This medicine works best when taken with a glass of water on an empty stomach (either 30 minutes to 1 hour before or 2 hours after meals) since that way it will get into the blood sooner. However, in some cases your doctor may want you to take this medicine with or right after meals to lessen stomach upset.

Use this medicine only as directed by your doctor. Do not use more of it, do not use it more often, and do not use it for a longer period of time than your doctor ordered. To do so may increase the chance of serious side effects.

In order for this medicine to help your medical problem, it must be taken every day in regularly spaced doses.

If you miss a dose of this medicine, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

Precautions While Using This Medicine

Your doctor should check your progress at regular visits, especially for the first few weeks after you begin using this medicine.

Do not change brands or dosage forms of this medicine without first checking with your doctor. Different products may not work the same way.

This medicine may add to the central nervous system stimulant effects of caffeine-containing foods or beverages such as chocolate, cocoa, tea, coffee, and cola drinks. **Avoid eating or drinking large amounts of these foods or beverages while using this medicine.**

Check with your doctor at once if you develop symptoms of influenza (flu) or a fever since either of these may increase the chance of side effects with this medicine. Also, **check with your doctor if diarrhea occurs** because the dose of this medicine may need to be changed.

Side Effects of This Medicine

Side Effects Which Should Be Reported To Your Doctor

- Bloody or black tarry stools
- Confusion or change in behavior
- Convulsions
- Increased urination
- Muscle twitching
- Skin rash or hives
- Stomach cramps or pain
- Trembling
- Unusually fast, pounding, or irregular heartbeat
- Unusually fast breathing
- Unusual tiredness or weakness
- Vomiting of blood or material that looks like coffee grounds

Side Effects Which Usually Do Not Require Medical Attention

These possible side effects may go away during treatment; however, if they continue or are bothersome, check with your doctor or pharmacist.

- Nausea
- Nervousness or restlessness

Other side effects not listed above may also occur in some patients. If you notice any other effects, check with your doctor or pharmacist.

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ASTHMA DRUG NAMES

Type of Drug and Route of Administration	Generic Name	Brand Names	
Adrenergic Bronchodilators (Oral/Injection)	Albuterol	Proventil Ventolin	
	Ephedrine†		
	Epinephrine†	Adrenalin Sus-Phrine	
	Ethylnorepinephrine	Bronkephrine	
	Isoproterenol	Isuprel	
	Metaproterenol	Alupent Metaprel	
	Terbutaline	Brethine Bricanyl	
Adrenergic Bronchodilators (Inhalation)	Albuterol	Proventil Ventolin	
	Epinephrine	Adrenalin AsthmaHaler Asthma Nefrin Bronchaid Mist Bronchaid Mist Suspension Bronitin Mist	Dysne-Inhal* Medihaler-Epi microNEFRIN Primatene Mist Solution Primatene Mist Suspension Vaponefrin
	Isoetharine†	Beta-2 Bronkometer	Bronchosol
	Isoproterenol†	Aerolone Isuprel Isuprel Mistometer Medihaler-Iso	Norisodrine Aerotrol Norisodrine Sulfate Vapo-Iso
	Isoproterenol with Phenylephrine	Duo-Medihaler	
	Metaproterenol	Alupent Metaprel	
Adrenocorticoids (Oral)	Betamethasone	Betnelan* Celestone	
	Cortisone†	Cortone	
	Dexamethasone†	Decadron Deronil* Dexone Dexameth	Dexasone* Hexadrol SK-Dexamethasone
	Hydrocortisone†	Cortef Cortisol §	Hydrocortone
	Methylprednisolone†	Medrol	
	Paramethasone	Haldrone	
	Prednisolone†	Cortalone Delta-Cortef Fernisolone-P	Predoxine Sterane

*not available in U.S. † generic name product available § other common name that is not the official generic name

Type of Drug and Route of Administration	Generic Name	Brand Names		
Adrenocorticoids (Oral)—continued				
	Prednisone†	Apo-Prednisone* Colisone* Cortan Deltasone	Liquid Pred Meticorten Orasone Panasol	Paracort* Prednicen-M SK-Prednisone Winpred*
	Triamcinolone†	Aristocort Kenacort		
Adrenocorticoids (Inhalation)	Beclomethasone	Beclovent Vanceril		
	Dexamethasone	Decadron		
	Flunisolide	AeroBid		
	Triamcinolone	Azmacort		
Cromolyn (Inhalation)	Cromolyn	Intal Sodium Cromoglycate §		
Xanthine Bronchodilators (Oral)	Aminophylline†	Amoline Corophyllin* Lixaminol Palaron*		Phyllocontin Somophyllin Somophyllin-DF Truphylline
	Dyphylline	Asminyl Dilin Dilor Droxine	Dyflex Dylline Dy-Phyl-Lin Lufyllin	Neothylline Oxystat Protophylline*
	Oxtriphylline	Apo-Oxtriphylline* Choledyl		Choledyl SA Novotriphyl*
	Theophylline†	Accurbron Aerolate Aerolate III Aerolate Jr. Aerolate Sr. Aquaphyllin Asmalix Bronkodyl Bronkodyl S-R Constant-T Duraphyl Elixicon Elixomin Elixophyllin Elixophyllin SR LaBID Lanophyllin Liquophylline Lixolin	Lodrane Norophylline Oralphylline Pulmophylline* Quibron-T Dividose Quibron-T/SR Respid Slo-bid Gyrocaps Slo-Phyllin Slo-Phyllin Gyrocaps Solu-Phyllin Somophyllin-12* Somophyllin-CRT Somophyllin-T Sustaire Synophylate Theo-24 Theobid Duracaps Theobid Jr. Duracaps	Theobron SR Theoclear Theoclear L.A. Theo-Dur Theo-Dur Sprinkle Theolair Theolair-SR Theolixir Theomar Theon Theophyl Theophyl SR Theospan-SR Theo-Time Theovent Trux-Ophylline Uniphyl

* not available in U.S.

† generic name product available

§ other common name that is not the official generic name

The brand names of asthma drugs have been listed for informational purposes only. Inclusion in the list does not imply endorsement by the U.S. Government or the National Heart, Lung, and Blood Institute, nor does the fact that a particular brand name has not been included indicate that that brand has been judged unsatisfactory or unacceptable. Although efforts have been made to list every brand name, there may be others of which we are not aware that contain the same active ingredients.

Note:
This list was compiled by the United States Pharmacopeial Convention and is complete as of February 1985. For new information, consult the USPC reference books that are updated yearly.

INHALED BRONCHODILATORS: WHIFFERS, PUFFERS, INHALERS, BREATHERS, NEBULIZERS

Bronchodilators that are supplied in an aerosol container and intended to be inhaled are referred to as "whiffers, puffers, inhalers, breathers, or nebulizers." Examples of medicines given in this form include Alupent (metaproterenol), Bronkosol (isoetharine), Isuprel (isoproterenol), Medihaler-Epi (epinephrine), and Duo-Medihaler (isoproterenol plus phenylephrine). Other names for inhaled bronchodilators are Bronkometer, Mistometer, and Aerohaler. The following discussion *does not* refer to beclomethasone (Vanceril) or cromolyn sodium (Intal). They are not bronchodilators and *should not be given to relieve breathing difficulties.*

Using a Nebulizer

If a nebulizer *is* used, it is very important to use it properly. Be sure that your doctor gives you and your child clear instructions on how to use it. The doctor should also give you some guidelines on *when* and *how much* the inhaler can be used. Be sure that you and your child understand the total number of whiffs that can be used in a 24-hour period. If the child wants to use it more than has been prescribed, that may be a signal that other medications are not working as they should. Your doctor needs to know this information. The other medications may need to be adjusted, or a medication monitoring program may be necessary to be sure that your child is taking other medications exactly as prescribed.

There are small machines, similar to humidifiers, that can deliver many of the same medicines as hand-held nebulizers can. These machines deliver bronchodilators in a warm mist directly into the lungs. They seem to offer more effective bronchodilation but the exact reasons why are not yet known. Since these machines do not offer as quick, portable relief as nebulizers, there is less chance of overuse.

Members of the medical profession disagree about the use of inhalers, especially with children. The following information and debate is presented so that you as a consumer can be well-informed and, with your doctor, make a decision about them yourself. The discussion is based on the use of *prescription* inhalers only. This type of inhaler is available only with a prescription from your physician. If you use a nonprescription inhaler, be sure to follow the directions on the label, and do not exceed the specified dose.

Arguments Against Use of Inhaled Bronchodilators

Much of the current reluctance to use inhalers or nebulizers (frequently shortened to "nebs"), especially with children, comes from a dramatic increase in the number of asthma deaths in Great Britain in the early 1960's. When these deaths were investigated, it was apparent that overuse of inhalers caused the bronchial tubes to close. Although this tragic situation demonstrates the potential dangers of nebulized medicines, the inhalers used in Great Britain at that time contained a dose of medicine five times stronger than the dose allowed in the United States.

Some physicians are also hesitant to prescribe nebulizers because they are afraid that patients will neglect their regularly prescribed medications and will rely on the inhalers more than they should. Nebulizers are convenient and easy to use. They are hand-held, portable, and offer instant relief for breathing difficulties. With availability of a nebulizer that quickly relieves breathing difficulties, it is tempting to neglect regularly prescribed medications. As the nebulizer is used more frequently, overdose becomes a real possibility.

Another concern about neb usage is that people may develop a psychological dependency on them. If the inhaler is misplaced or forgotten and an attack starts, a person who has learned to rely on an inhaler for instant relief may panic more quickly than someone who is not expecting such speedy relief. If the inhaler had not been prescribed in the first place, patients would have learned other ways of coping with an attack.

The associated dangers with nebulizers come from *misuse* or *abuse* of the nebulizers, and not from any inherent danger in the nebulized medicine itself. Being aware of these potential problem areas can help guard against misuse and abuse.

Arguments in Favor of Inhaled Bronchodilators

An important advantage of nebulized medicines is that they can be used preventively as a "pretreat." To pretreat means to use medicine *before* an activity that may serve as an asthma trigger. Nebulizers are used by many people with exercise-induced asthma so that they can participate in sports activities. Preventive pretreatment enables them to exercise more fully, and experience the good feeling of using their bodies in vigorous activity. Pretreats may allow people with asthma to develop the physical side of themselves and provide them with a way to excel and feel good about themselves. This feeling is especially important for children who need positive experiences to develop a healthy self-concept.

Pretreats may be useful in other situations. A trip to a relative's house who has a cat or a visit to a rodeo may be made less worrisome with a pretreatment to forestall an attack. A nebulizer is convenient to relieve an attack in these same kinds of occasions. Activities can be attempted, knowing that the nebulizer is available for quick relief if a problem does occur. This availability may enable a person with asthma to be less confined or more willing to try new activities.

Nebulizer Use by Children

Because of the potential dangers of inhalers, some authorities on asthma believe that their use by children should be controlled or supervised by adults. Some experts recommend that children should not have the inhaler in their possession, but have access to it through an adult. However, this is an individual matter dependent upon the age and sense of responsibility of each child. Some elementary school children have learned how to be responsible with nebulizers and to use them wisely. Families of other youngsters feel that nebulizer use should be closely supervised. The final decision on how the matter is handled must be left up to the family after consultation with the doctor and other adults, such as school personnel, who may be involved in the care of the child with asthma.

Children need to be taught to use all medication properly, and then gradually be given the responsibility for medication use. It is important to remember that children will become responsible only when given opportunities to practice skills in situations demanding increasing responsibility. As in learning anything new, medication management involves taking small steps toward the ultimate goal of total responsibility.

Nebulizer Use by Adolescents

Some health and school personnel believe that the use of nebs by teenagers should be closely monitored. They warn that adolescents will use inhalers to get high. This "high" has been described as a sudden rush that lasts for a few minutes at most

and results from the heart suddenly speeding up. Most children and adults do not like this feeling. Although nebulizers (along with nutmeg or oregano) might be abused, the danger of inhalers being abused like an illicit drug seems small. Certainly this argument should not prevent a teenager from experiencing the benefits provided by this form of medicine.

In Conclusion . . .

The preceding debate is presented so that you can make an educated decision about nebulizer use. On the pro side, nebulizers offer quick, convenient relief for asthma symptoms; on the con side, nebulizers can easily be abused and can interfere with other types of treatment. Be sure to discuss any questions or concerns that you have with your physician. Then the decision is up to you.

Do Drugs Cure Asthma?

No. Drugs do not cure asthma, but they do help to control it. Taking asthma medications as prescribed should enable the child with asthma to do most things without experiencing frequent asthma episodes.

What Is Meant by the Term "Therapeutic Level" of a Drug?

In order for a drug to work effectively to keep the airways open, and to protect against an asthma attack, it must be present in a certain level in the blood. This is known as the "therapeutic level."

If the amount in the blood drops below the therapeutic level, the drug becomes less effective. If the amount is higher than the therapeutic level, adverse side effects may occur.

Each type of asthma drug and each brand of each type has its own therapeutic level.

Why Is It Necessary to Take Asthma Drugs on Time?

After taking a drug, it may take half an hour or so before enough of the medicine gets into the bloodstream to reach the therapeutic level. The amount of drug in the bloodstream remains fairly constant until the body begins to use it and break it down (metabolize it). The amount of drug in the blood falls as the drug is used up and may dip below the therapeutic level.

Taking an asthma medicine on schedule keeps the blood level of the drug fairly constant by replenishing it before it falls below the therapeutic level.

If a Child Is Taking Theophylline Every 6 Hours and the Morning Dose Comes at 6:30, Is It O.K. to Delay Until 8:00 or Later on Saturday?

No. Theophylline must be taken on schedule every day of the week. It is important to take aminophylline and theophylline-type drugs exactly on time because the blood level of the drug begins to drop below the therapeutic level after 6 hours. Unless the therapeutic level is maintained by adhering to the prescribed schedule, the child is not well protected against an asthma episode.

How Much Leeway Is There in the Schedule for Taking Theophylline Type Drugs?

To keep on schedule for theophylline and to keep a fairly constant therapeutic level, the drug must be taken no more than half an hour after or before the scheduled time.

What Is a "Theophylline Level" or a "Theophylline Test"?

A theophylline level is a test to determine how much of this drug is in the bloodstream. Blood is taken from the arm and analyzed. People with asthma who are taking this drug need to have a blood level of 10 to 20 micrograms of theophylline in each milliliter of blood serum in order to derive optimal benefit from it and control their asthma. This is the "therapeutic level" for theophylline. If the level is below 10 micrograms per milliliter (mcg/ml), some individuals with asthma will develop asthma symptoms. On the other hand, some children with asthma will

achieve good control of their asthma symptoms with levels of 7–9 mcg/ml (and perhaps lower) and in this circumstance, the dose need not be increased. It is important to treat the patient, not the theophylline level. If the level is above 20 mcg/ml, side effects such as irritability, nausea, and vomiting, will be noticed. At higher, overdose levels, seizures may occur, but this is rare.

Why Do Theophylline Tests Need to Be Done?

Different people metabolize, or use up, theophylline at different rates. Even though two children with asthma are taking the same dose of theophylline at the same times each day, each child may have a different level of theophylline in the bloodstream. The only way to tell is to analyze a blood sample. If a child's blood theophylline is too low, the doctor can increase the dosage so that the blood level will come into the effective (therapeutic) range. Or, if the level is too high, the doctor can change the prescription to a lower dose.

How Can Side Effects from Theophylline Be Handled or Controlled?

If a child with asthma begins to experience irritability, stomach upsets, or vomiting about an hour after taking theophylline, the doctor should determine the blood theophylline level and perhaps lower the dosage or change the formulation. These symptoms are usually due to an effect in the central nervous system related to a high serum concentration of the drug.

Should a Child with Asthma Take Medicines Other Than Those Prescribed for the Asthma?

Before taking any other medicines, especially antibiotics or over-the-counter medicines, the child with asthma or his/her parents should check with the doctor who is treating the asthma to be sure that no unwanted drug interactions will occur. Children with asthma should also be cautious about taking aspirin.

How Does Aspirin Affect Asthma?

A certain percentage of people with asthma are sensitive to aspirin. For these individuals, taking aspirin will set off an asthma attack. Many of the people who react this way to aspirin will also be sensitive to tartrazine yellow, which is yellow food dye number 5. It is also called Food, Drug, and Cosmetic Dye No. 5 (FD&C #5). If these people eat food containing this dye, an asthma attack may be triggered. Cake mixes; certain artificially colored beverages, candies, and foods; and even some drugs contain FD&C yellow number 5. If your child has this sensitivity, be sure to read the ingredients on the labels of the foods, beverages, and medicines that you use.

What About Over-the-Counter Drugs for Asthma?

People who take over-the-counter drugs for asthma do so without the benefit of advice and warnings that a physician knowledgeable about asthma can give. It is advisable to check with your child's doctor about any over-the-counter drugs, including those for asthma, that your child may be taking to be sure no unwanted interactions will occur.

What About Flu Shots or Other Vaccinations for Children with Asthma?

It is important to check with your child's asthma doctor before scheduling immunizations of any kind. Flu shots may or may not be a good idea for a child with asthma. Sometimes children get sick after having a flu shot. If flu immunization is being given at school and you wish your child to participate, be sure he/she is feeling well that day. Otherwise, wait until the child is feeling well, but do remember to check with the child's doctor first.

What About Taking Drugs Prescribed for Other Children with Asthma?

This is *never* a good idea. Each child has different needs and each child's medicines are carefully balanced in terms of types and amounts. What works for one child may not necessarily work for another child.

What Is the Greatest Danger of Overuse of Nebulized Medications Containing Isoproterenol, Metaproterenol, or Related Compounds?

Overuse of these medications during an asthma attack may cause a *tightening* of the bronchial tubes and increases difficulties in breathing. With these types of medicines, a little is good but *more* is *not better.* Do not exceed dosages or the frequency of use of these medicines as stated on the package directions. See Handout on Whiffers, Puffers, etc.

ASTHMA DRUG VOCABULARY

ACUTE ATTACK: Any worsening of breathing that occurs in a relatively short amount of time and does not respond to the usual medications.

BRONCHOCONSTRICTION: A tightening of the airways in the lungs, resulting in breathing difficulty.

BRONCHODILATOR: A drug that helps open up and relax the airways, making it easier to breathe.

COMBINATION DRUGS: Any combination of medicines that are joined into one dosage form. Some asthma medications contain theophylline, ephedrine, and a sedative in one tablet. Some doctors do not like combination drugs because the dose of the individual medications cannot be adjusted. Combination drugs may be more expensive than each ingredient bought separately.

GENERIC DRUGS: Not a brand name drug; usually a less expensive form of a drug.

MAXIMYST: A Maximyst machine is a small machine made by Meade Johnson Laboratories similar to a humidifier that delivers a bronchodilator in a warm mist directly into the lungs. This method of delivery seems to be more effective than hand-held nebulizers, but is more expensive, costing over $100. Pulmo-Aide is another brand name for a similar device.

NEBULIZER: A hand-held atomizer that can deliver medicine directly into the lungs.

P.R.N. (p.r.n): *Pro re nata;* a designation for taking medicines "as needed," rather than on a regular basis.

Q.I.D.: Four times a day.

SIDE EFFECT: Result that a drug may have that is other than the one for which it was intended. The most common side effects are presented in the drug information sheets.

ASKING QUESTIONS ABOUT MEDICATIONS

As a consumer, you have the right and responsibility to have complete information about the medicines that are prescribed for you or your child. Clear instructions should be provided for any medication that your child takes. A list of questions follows; you should be able to answer all of them before you leave the doctor's office.

1. What is this drug, and what is it supposed to do?
2. Exactly how much, when, and for how long, should it be taken?
3. What are the possible side effects? What should be done to counteract them? Which side effects should be reported at once to the doctor?
4. How long does it take for the medicine to start to work?
5. What should I do if it doesn't seem to be working?
6. Are there any medicines or foods that should not be used while taking this drug?
7. Should this drug be taken before, with, or after meals?
8. Is there a less expensive form of this drug available?

HELPFUL FACTS ABOUT MEDICATIONS FOR ASTHMA

For mild asthma, over-the-counter, NONPRESCRIPTION DRUGS may be enough to control the asthma. These drugs are *not* controlling the asthma if: (1) more than the amount recommended on the bottle or box is needed to prevent wheezing or tightness, or (2) the recommended amount is needed more often than is recommended. In either case, you may need a stronger, prescription drug and you should see your doctor. If you are taking nonprescription medication for asthma, be sure that your doctor knows.

According to the American Lung Association, successful use of asthma medication means adding more potent agents only when simpler drugs have not been effective.

It is important that asthma medicine be taken EXACTLY AS IS PRESCRIBED to have it work correctly. If a medicine is prescribed for every 6 hours, it must be taken every 6 hours, even if a dose falls in the middle of the night. If that dose is always omitted, be sure to let your doctor know; a longer acting form of the drug may be available.

There are many possible SIDE EFFECTS for most drugs. Medicines affect people differently. Some people experience many side effects; other people suffer few side effects for any medicine. If you have questions, check with your doctor.

A NEBULIZER is an atomizer that delivers medication directly into the lungs. Check with your own doctor as to the proper guidelines for nebulizer use. Using too much nebulized bronchodilator is dangerous. Be sure to understand your own doctor's directions. Generally, no more than 3 to 4 doses should be taken in 24 hours. One dose consists of one whiff, then another whiff. Hence, if you have used 6 to 8 whiffs in one 24-hour period, tell your doctor before you use any more.

Isuprel, Alupent, and Bronkometer are all prescription nebulized drugs that may be used before exercise to PREVENT ASTHMA. Check with your doctor for details.

The following drugs should be AVOIDED by people who have asthma. Ask your doctor or pharmacist for specifics: propranolol (Inderal), morphine, MAO inhibitors (some antidepressants), tricyclic drugs (another type of antidepressant).

EXPECTORANTS are substances that help bring up excess mucus. Natural expectorants include garlic, mustard, horseradish, and hot peppers.

NOTE: The information here is not specific to children. Children sometimes respond to drugs differently from adults, and establishing correct doses may be difficult. Again, check with your doctor about any specific concerns you may have.

TAKE-A-STEP GAME

This game is used any time during the sessions to change pace and to reinforce important concepts.

Designate two clearly visible lines approximately 20 feet apart, one as the start, the other as the finish line. Everyone stands side by side with toes to the starting line.

The group leader asks the first person a question and depending upon the adequacy of the answer, allows the person to move so many steps ahead. Three steps is usually the maximum allowed. A "step" is equal to one foot length. (The disparity of foot sizes has never been an issue in our groups.) Inadequate answers cause the player to remain in the same place. A question is asked to the players in turn, one by one, until the correct answer is given. The first "foot" to reach the finish line wins.

Questions can be made up on the spot or the standard set of questions shown below can be employed. The leader should make up questions about points raised during the session that the children do not seem to grasp. The repetition helps them to remember better. Feel free to ask the *same* question over and over (even in subsequent Take-a-Step games that leader may choose to do in later sessions) until the children get it right. If one child seems to miss an important point, the group leader can make up a question on that topic specifically for that child. For example, if a child does not know the names of his/her asthma medicines, he/she can be asked a Take-a-Step question until he/she does know and remembers every time.

The Take-a-Step questions will vary with each group of children who take part in the program.

Sample Questions for TAKE-A-STEP GAME

Below are some sample questions to use for the Take-A-Step Game, but your own questions can be used. Try to ask questions on information that the children had the most difficulty understanding during the lesson. This will help to reinforce that information.

1. What is the name of Marvin's doctor? (Dr. Q)
2. What is his famous motto about medicine? (Take It And Take It On Time)
3. What does his famous motto mean? (medicines should be taken every time the doctor has prescribed them, in the way he has prescribed them)
4. What is the special way of breathing that can help you during breathing problems? (belly breathing or abdominal breathing)
5. Show me how to do belly breathing when you are sitting down.
6. When should you use belly breathing? (every time you feel short of breath)
7. How often should you practice belly breathing? (at least 10 times every morning or evening)

Optional questions if a lot of class members use nebulizers:

8. What is this? (hold up an inhaler)
9. How do you use an inhaler?
10. What are the dangers of overusing one? (causes bronchial tubes to tighten and patient may neglect to take regularly prescribed medication)

INTRODUCING MARVIN MARVELOUS AND THE INCOMPARABLE DR. Q

Hi! My name is Marvin Marvelous and this is a picture that my friend Paul drew of me in front of my house. As you can see, I have blond hair and freckles. Now that I'm older, I don't mind being teased about them, but I sure used to get bugged about it when I was little.

I live on a farm outside of Menominee Falls, Wisconsin, with my mother Rosella, my father Rory, and my sister Marvina, and Ruffles. I spend a lot of time outside playing and riding my bike down the road with my friend Dan. We're both in the sixth grade and play on the same baseball team. We also like to build forts out back of Dan's house.

My favorite sport is baseball. I play all summer on a recreation league team. I'm catcher for our team, the Menominee Marvels, and last year we came in second in the whole league. I figure this year we may win the league. Mr. James thinks we have a chance because most of our old team players are coming back and we got much better at the end of last year.

In a few minutes I've got to go to town and see Dr. Q. He's my asthma doctor. A few years ago I found out that I had asthma and I go to him for checkups and if I have any problems. I've learned how to take care of myself now so I don't have a lot of problems any more. But boy, do I have some stories to tell you about what happened to me *before* I learned what to do.

When I first found out that I had asthma, Dr. Q told me what went on inside my lungs. He said, "Well, my boy, now that we know for sure that you have asthma, you'd better learn something about it. Have a seat and we'll have a talk."

"Now," he said as he settled back into his old leather chair, "there are three changes that happen in your lungs when you get an asthma attack. These changes make it hard for you to breathe. The names of the changes are bronchoconstriction, edema, and mucus plugs."

Remember I was pretty young then, and when I heard those big, strange, words, I got this picture in my head. What flashed there on my mind's screen was a picture of my front, kind of cut away like those flip-over pages of the body in my encyclopedia. And what I saw in my lungs was a bronchoconstrictor, curled up squeezing my lungs tighter and tighter. It was horrid looking, like a big boa constrictor.

And when I heard him say "edema," I pictured this DEMON with a pitchfork tail that stabbed me every time that demon came running down a bend in my lungs. And to me, mucus plugs were like those big bathtub plugs. Those bathtub plugs were stuck to the end of my lung tubes, every little tube stopped up with a huge white rubber plug in it.

Well, I must have looked kind of funny, 'cause after Dr. Q said those big words, he got up and pulled down this big chart. He started explaining all about my lungs and what happens when I get asthma.

Learning About Asthma

"I guess that I'm going a little too fast," he said as he pulled down the chart. "First, you should know a little about how your lungs work," Dr. Q said.

"Usually the air comes in through your nose and mouth. Then it goes down your throat and into the air tubes that go into the lungs. We breathe in fresh air and *oxygen* and breathe out stale air and *carbon dioxide.*"

"The air tubes are called *bronchi* or *bronchial tubes* and get smaller and smaller as they branch off in the lungs. If we could see inside our lungs it would look a little like a tree upside down, with the main trunk being our *trachea* (throat tube) and the *bronchioles* (smallest air tubes) being the tiny twigs at the tips of the outer branches. The oxygen that we *inhale* (breathe in) passes from these outer branches into the bloodstream, and carbon dioxide is *exhaled* (breathed out). This exchange of oxygen and carbon dioxide takes place in the alveoli (air sacs), at the tip of the bronchioles."

"Because you have asthma, there are times that your lungs act differently than those of us who don't have asthma. There are certain things, which we call your triggers, that cause changes in your lungs. These changes happen only when you have an asthma attack. Most of the time your lungs are just the same as mine."

Those strange words that I used describe those changes. Bronchoconstriction is one of those changes. There are muscles wrapped around your bronchial tubes and when your asthma is triggered, they suddenly tighten up and squeeze your bronchial tubes. Get a picture in your mind of one of your bronchial tubes looking like a straw with a string wrapped around it. Normally, it's easy to breathe through the straw. When your asthma is triggered, it is like someone has suddenly pulled that string tight. It cuts the amount of air that you can breathe in and the amount of air that you can breathe out."

"The second thing that happens inside the bronchial tubes during asthma is that the sides of the tubes become thick and swollen. When I said 'edema,' I meant the swelling in the bronchial tubes. That also makes the air space inside the bronchial tubes smaller."

"And the other thing that happens during an asthma attack is that your body makes more mucus than it usually does. That mucus is very thick and sticky. It is so thick that it clogs the bronchial tubes. That is how you get mucus plugs."

"Yuk," I said.

"It is yukky," laughed Dr. Q. "Sometimes you may cough a lot when you have asthma. That is your body's way of getting rid of that thick mucus and helping to clear out your lungs."

"That sure is a lot for me to remember," I said. "I kind of understand why it gets hard for me to breathe during an asthma attack, but how come, Dr. Q? Why do I have asthma?"

"Ah, my boy," Dr. Q sighed. "If only we knew the answer to your question, we'd probably know how to cure it. But as of today, we don't know exactly what causes one person to have asthma and another one not to have it. If you have asthma, it's a good bet that someone somewhere in your family also has or had asthma."

"But just because we don't know how to cure it, doesn't mean that we don't know how to take care of it."

Taking Care of Your Asthma

"Taking care of your asthma means learning how to control it, so you don't get wheezy very often. I can help you get the asthma under control by prescribing medicine and telling you how to take care of your asthma. But the main part of taking care of your asthma is up to YOU."

"Gee, Dr. Q," I said. "What do you mean? How can I keep myself from wheezing? Sometimes I pretend that it's just not there, but that never really helps. I always end up getting tight anyway."

"That's what asthma is like. You can't make it go away by pretending that it's not there. Once you've started having trouble breathing, it is hard to make it go away by ignoring it. Once the trouble has started, it almost always gets worse unless *you* do something to stop it."

"When I said that taking care of your asthma is up to YOU, I meant that you are the one who has the asthma, and you are the one that has to act to help yourself."

"I can prescribe medicine for you to take, but YOU have to take it."

"Your mother may remind you to take it, but YOU are the one that has to do the taking."

I can tell you to stop and rest when you get wheezy, but YOU are the one that has to do the stopping and resting."

Your teacher may remind you to get something to drink when you're wheezing, but it's up to YOU to do the drinking."

"I can say that getting a good night's sleep helps you not get wheezy, but YOU are the one that has to do the sleeping."

"I can tell you some of the things that trigger your asthma, but YOU'LL have to do the staying away."

"That's what I mean by 'taking care of your asthma is up to you.'"

"I always tell kids that it's their asthma, it's not their Mom's or Dad's asthma. So I expect you to know what medicine you take and when you take it, just as I expect you to tell me how you feel when I ask. I don't want your Mom or Dad to answer for you, 'cause it is not their asthma. I listen to your lungs when you come in, not theirs. Oh, sometimes they may want to tell me something, but the main part is up to you."

"Is that why you asked Mom to wait in the other room?" I asked.

"Sure is, Marvin. Later I'll talk to your Mom and Dad and explain some of this to them too. I'll give them some books to read too. But the main part is up to you, so I talk to you first.

"Now," Dr. Q continued, "we're almost finished. I've got one more chart to show you. It tells you some ways to help yourself from getting an asthma attack."

To Keep Yourself Healthy

1. Eat good food and drink plenty of liquids.
2. Get enough sleep every night.
3. Get exercise every day.
4. Stay away from things that make you wheeze.
5. If the doctor has given you medicine, take it exactly as he tells you.

ASTHMA REPORT FORM

I had trouble breathing today.

	MON	TUE	WED	THUR	FRI	SAT	SUN
Yes			✓				✓
No	✓	✓		✓	✓	✓	

I practiced my belly breathing today.

Yes	✓	✓	✓				✓
No				✓	✓	✓	

Today *Aug. 6* (Date) I had trouble breathing while I was *playing baseball* (What were you doing?)

These were the signs of asthma that I observed: *out of breath, tired, wheeze* (How did you feel?)

To help my asthma get better I *drank water, rested, did belly breathing* (What did you do to help your breathing?)

Today *Aug. 10* I had trouble breathing while I was *asleep*

These were the signs of asthma that I observed: *woke up wheezing, felt stuffy*

To help my asthma get better I *drank water, took my meds.*

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

MARVIN MARVELOUS

DR. Q

TO KEEP YOURSELF **HEALTHY**

1. Eat good food and drink plenty of liquids.

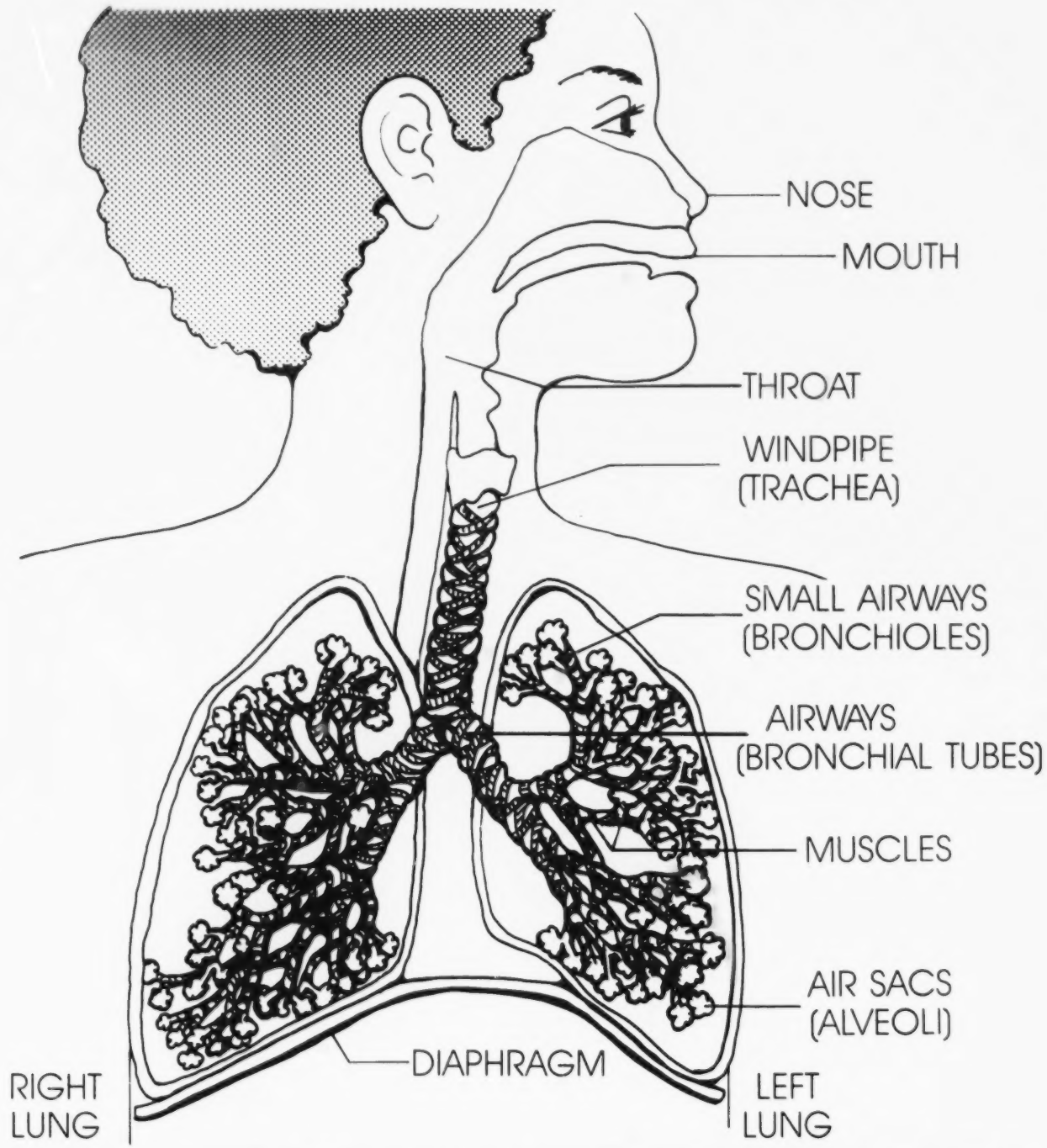
2. Get enough sleep every night.

3. Get exercise every day.

4. Stay away from things that make you wheeze.

5. If the doctor has given you medicine, take it exactly as he tells you.

1. NORMAL **LUNGS**



HOW TO PRACTICE BELLY BREATHING

1. Lie on the floor, bend your knees, keep your feet on the floor, and put one hand on your chest and the other hand on your stomach.

2. Breathe in through your nose, and make your stomach get round like a ball. Your chest should not move.

3. Blow all the air out through your mouth with your lips pursed, and the hand on your stomach to help you push all the air out. Your stomach should be flat.

Practice belly breathing 10 times, slowly, making sure that your chest remains still. Try practicing this twice-a-day.

Whenever you have a hard time breathing, sit, leaning forward with a straight back, arms on your knees. Now breathe through the nose, then blow all the air out through the mouth slowly, keeping your chest still. Breathing this way may make you feel better and less tired.

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

CHILDREN'S SESSION THREE

BECOMING GOOD OBSERVERS AND EARLY WARNING SIGNS

GOALS

- To become more aware of the messages our bodies are giving us
- To practice becoming observers
- To introduce the concept of early warning signs

RESOURCES

Leader Background Material:
- Early Warning Signs of Asthma
- Dr. Q's Lecture: Early Warning Signs
- Marvin Marvelous Story: Discovery: Marvin the Detective

Supplies and Equipment:
- Blackboard and chalk or flipchart and marking pens
- Mats for relaxation exercise
- Crayons, pencils

Handouts:
- Asthma Report Forms
- Early Warning Signs Booklet

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome	Discussion of Steps Taken Toward Self-Management	
Review	Discussion of Asthma Report Forms and Belly Breathing Problem Solving	
Listening to Our Bodies	Discussion	
Early Warning Signs	Discussion Booklet Activities Reading Filling in the Blanks Story: Marvin the Detective Telling, Reading, Discussion	Dr. Q's Lecture: Early Warning Signs Marvin Marvelous Story: Marvin the Detective Coloring Early Warning Signs Booklet
Becoming Good Observers	Observer Game Discussion	
Relaxation	Relaxation Exercise	
Review		Take-A-Step Game

CHILDREN'S SESSION THREE

BECOMING GOOD OBSERVERS AND EARLY WARNING SIGNS—TEACHING NOTES

Welcome

Hi everyone. Welcome back! Did you remember to bring your notebooks? Good for you!

Did everyone have a good week?

Did anyone have trouble breathing this week? What did you do?

- **Praise any steps that were taken toward self-management.**
- **Problem solve around any areas that need work.**

Who has some other suggestions about what to do when you have breathing problems?

- **Try to elicit suggestions from class members.**

Review

Remember, the most important things to do are rest, relax, drink warm liquids, tell an adult, use your medicine, and do belly breathing.

- **Write these items on board or flipchart.**
- **Praise children for remembering.**

Who remembers our rhyme?

- **Allow children to repeat:**

  "Think, drink,
  Be calm, tell Mom.
  Maybe a med, maybe to bed."

Asthma Report Forms

Did you remember to bring in your Asthma Report Forms?

Raise your hand if you remembered to keep track of belly-breathing practice and asthma episodes. Good for you!

- **Take a minute to look at each child's asthma report form.**
- **Problem solve around any areas that are unclear on the form.**
- **Hand out more forms.**

Here are your Asthma Report Forms for next week. Try to remember to fill them out each day and bring them back next week.

Discussion—Messages From Our Bodies

Today we are going to talk about the kinds of messages that our bodies give us. Can you think about any messages your body gives you?

- **Allow time for response; if no response ask. . . .**

What kind of message is your body giving you when your stomach growls?

- **Allow time for response.**

What kind of message is your body giving you when you yawn?

Allow time for response to all questions.

Usually when things are off kilter or beginning to go wrong with your body, it lets you know. Can you think of any ways your body has let you know something was beginning to go wrong?

Encourage discussion.

Most of the time your body gives you a message, a warning that an asthma attack is going to happen. Have any of you noticed how you feel right before you get tight or start to wheeze?

Allow longer time for responses.

Try to get responses from everyone.

Stress that you want them to start paying attention to how they feel when they first suspect that breathing problems may happen soon.

Early Warning Signs Activities

We are going to call these messages by a special name: "Early Warning Signs."

Early Warning Signs Booklet

Pass out the early warning signs booklets.

What kind of a bird do you think is on the cover of the booklet? It is a robin. What do people say when they see a robin in February or March?

A robin is an early warning sign that spring is coming. A robin is a good early warning sign that the cold will soon stop and it will get warm.

Activities with Booklets

Early Warning Signs are the signs that an asthma attack may be coming. By paying attention to them, you can keep an asthma attack from getting bad.

The next page lists a number of things that people have said are early warning signs for them.

Go over the page together, discussing items.

Fill in blanks on p. 3.

Check the things that are sometimes early warning signs for you. Check later with your parents to discover more.

Read aloud p. 3.
Fill in blanks on p. 4.
Read aloud p. 4.
Have discussion of ways to discover early signs.

Together, do the pages that follow, discontinuing the activity when the interest fails.

Let's put away the booklets for now. Later we can color them.

Dr. Q's Lecture: Early Warning Signs Story

This story is offered as an alternative method of explaining the concept of early warning signs. It may be used along with, or instead of, the preceding material.

Read "early warning signs" to class.

The main things Dr. Q wants Marvin to understand are:

- Everyone has *some* early warning signs.
- You can discover *your own* early warning signs by paying attention to what your body tells you.

Observer Game

Let's play a game that will give you some practice at being an observer. An observer is someone who pays attention to what is happening. You have to become a good observer to learn all of your early warning signs.

- Without telling the children any specifics, ask for one volunteer to leave the room.
- Choose a child who is colorfully dressed.

Go out of the room with that child and then explain to him/her that the others are going to try to describe what the volunteer looks like. Have the volunteer remain out of the room out of sight.

Let's see how much we can remember about _____ (child's name). What color are his/her eyes, hair, shirt, and pants? Is there anything else you remember about _____ (child's name)?

- Write down their descriptions on a blackboard or flipchart being as specific as possible: Brown hair, blue eyes, yellow shirt with little red stripes on it, etc. Encourage the children to get specific. When they have finished, allow the volunteer to return.

How does our list compare with *(child's name)?*

What was incorrect? What did we forget?

Do you feel you were good observers? Did you pay close attention to what the child was wearing? Who can tell us again what observer means?

- Permit Discussion.

It is much harder to pay attention to something when you don't know what you are to pay attention to. Now let's play the game again. Who wants to volunteer this time?

- Have child stand before the group for a few seconds before he/she leaves the room.
- Again list the description on the board, then have the child return.
- Compare the written list and the child's appearance.

Summary

Which child was easier to describe carefully—the child where you didn't know what you were to observe, or the one where you knew what to look at?

See how much easier it is to observe something when you know what you are supposed to be looking for. Now it should be easier for you to discover more early warning signs now that you know what some of them are.

Discovery Story: Marvin the Detective

Older children may prefer to read the story to themselves.

There are several messages about early warning signs and management practices in this story. Encourage discussion afterwards.

Marvin had an interesting experience with early warning signs. Let me tell you what he told me about discovering his early warning signs.

Read story to class of younger children, or distribute copies of the story to older children.

What do you think the most important messages are in this story?

Allow time for class to respond.

Have children share their own stories of similar experiences.

Encourage them to be good observers and use management skills during the week.

Be sure all these points are made:

The messages from the story are:

- Everyone has some early warning signs.
- You can discover some of your own early warning signs by observation
- You can use tricks to remind yourself of your early signs. Every time Marvin passed a water fountain it reminded him to think about whether or not he was thirsty—one of *his* early signs.
- By taking precautions when you notice an early warning sign, you can prevent an attack so that your activities won't be interrupted by an asthma attack.

Assignments

During the coming week try to be good observers. Pay attention to how you feel and see if you can notice any early warning signs in the coming week.

Relaxation

Discussion

Who can tell me what the word 'relaxed' means?

Allow short time for responses.

Who can show me what it looks like to be relaxed?

Choose a few volunteers.

Look at _____. Does he/she look relaxed to you?
(name)

Look for such things as: feet pointing straight up and not slightly flopped to the side; legs propped up on each other; facial lines signifying less than total relaxation; shoulders held high or tight, etc.

Question them about any body position that is not relaxed.

Who else wants to show us what it looks like to be relaxed?"

Choose one or two more volunteers.

Relaxation Exercise

Let's all find a space on the floor where we can lie down and relax. Use your mats if you want to. Now shut your eyes and get as relaxed as you can. Listen very carefully to my voice and concentrate on what I'm saying. What we're doing is a little bit like being hypnotized but you can stop anytime you want. If you feel uncomfortable just open your eyes and sit quietly until we're all finished.

Speak in a slow, soft monotone. Pay attention to how the group is responding and see if they seem comfortable with the exercises. Keep the talking to a minimum. If they are having a hard time, keep up a running patter in a quiet monotone. You will have to gauge the group while you are doing the relaxation. Spend enough time so that most of the kids achieve a level of relaxation in which their breathing is deep and regular.

Keep your eyes shut and breathe normally for a few times . . . just relax and think of some place that is peaceful for you. Maybe it will be floating in space, maybe floating on a quiet lake . . .

Try to let go a little more each time you breathe out . . . Feel yourself sinking deeper into yourself . . . Just think of a peaceful scene and enjoy.

Okay, it's time to stop for now, slowly open your eyes. Just stay still for a few minutes, it is like waking up . . . Now slowly move around a little . . . And now get up.

Let's go back to our places.

What did it feel like to be relaxed? Who can tell us about their own peaceful scene?

Call on volunteers.

When you were real relaxed, how many of you felt real warm?

Raise your hands if you felt heavy.

Did anyone feel like you were sinking?

Who felt like you were floating?

When you need to relax, keep your special scene or that special feeling in your mind.

Final Activities

Choose as time and interest allow:

Coloring Early Warning Signs Booklets

Take-A-Step Game

(See leader background materials for session 2.)

This is a good way to review earlier material and to reinforce or explain information that the children had trouble understanding.

Reminders

Well, that's all for today. We learned a lot about early warning signs. There's is a lot to remember for next week. Try to remember to fill out and bring back your Asthma Report Forms.

Don't forget to bring your notebooks again. We'll have some more booklets to put in next week.

Practice your belly breathing every day and bring your relaxation mats next week.

If you notice early warning signs this week, be sure to remember them for us. We'll want to hear about them next week. Use the first page of the Early Warning Signs booklet and ask your family to help you.

Have a good week!

EARLY WARNING SIGNS OF ASTHMA

Early warning signs of asthma are the physical and emotional changes that happen to most people with asthma BEFORE they actually begin to experience breathing difficulties that are severe enough to restrict their regular activities. These are the earliest signs of asthma and occur before there is audible wheezing. These signs are not the same for everyone, and even the same individual may experience different early signs at different times. Several signs may be noted at one time, or only one may be experienced at a time. These signs are not infallible predictors of an attack, but rather indicators of the *possibility* of an attack.

Common Physical Early Warning Signs

Coughing*
Shortness of breath*
Tightness in chest*
Chest hurts*
Decreased exercise tolerance*
Chest filling up*
Feeling tired*
Headache
Itchy throat
Watery eyes
Feverish
Dry mouth
Clammy feeling skin
Facial color change
Bad breath
Sore throat
Scratchy throat
Heart beating faster
Sneezing
Head plugged up
Dark circles under the eyes
Quickening breathing
Stroking of chin or throat

*Most commonly mentioned early signs.

Common Emotional Early Warning Signs

Feeling spacey
Getting upset easily
Feeling nervous
Feeling sad, down
Getting excited easily
Feeling grumpy
Wanting to be alone
Feeling restless
Feeling mopey

It is obvious from the list that "early warning signs of asthma" are not uncommon and could be "early signs" of other illnesses or even of simple changes in mood. By learning the concept of early warning signs, the person with asthma will learn to be aware of how the body feels and what messages the body is giving. The list above was generated by asking many people with asthma how they felt before they had an asthma attack, or how they knew an attack was building. The list is, therefore not definitive, but does represent many common signs.

Recognizing and acting upon early warning signs of asthma is an important aspect of asthma control, but it is a difficult concept for many children and adults. The key is to be aware of messages the body is sending and then to take preventive action if an asthma attack is suspected.

If one of these "signs" is noticed, the possibility of an attack should be considered. Whenever there is evidence that might indicate that an attack is building, slow down activities and drink plenty of fluid. These precautionary measures may help avert or lessen the severity of an attack and certainly can do no harm.

It is not uncommon for people to say that they have no early warning signs or indicators of asthma. In many cases, these people are simply unaware of variations in how they feel. Sometimes awareness of the existence of early warning signs enables people to pay attention to variations in how they feel and thus they can begin to recognize early warning signs.

Occasionally there are people who lack the mechanism by which the brain recognizes breathing difficulties. These people are said to have a decreased hypoxic drive. This reduction of hypoxic drive eliminates one way in which people with asthma perceive that an attack is coming. Laboratory tests can be performed that will determine whether hypoxic drive is lacking. But even people who lack hypoxic drive experience other warning signs. They must become conscious of other physical and emotional ways that their bodies communicate with them. The "emotional" early warning signs may play a more important part in early identification of asthma for these people.

Again, the important steps to take if early warning signs are experienced or suspected are: REST, and DRINK FLUIDS. Both of these activities can be done without much disruption of usual activities. If breathing problems do follow, take any medication that is prescribed for attacks and continue resting and drinking warm fluids. Attacks almost always come on gradually, and treatment at the earliest possible time is most likely to be helpful. Waiting for the attack to become full-blown usually means that it will take more time and treatment to get relief.

EARLY WARNING SIGNS: DR. Q's LECTURE

One time when I went in to see Dr. Q, he explained to me why knowing what my early warning signs were was so important.

He said, "The early warning signs are clues that you may be getting asthma. If you can discover what your early warning signs are, you can usually prevent an attack from becoming bad. And having attack after attack is not good for you or your lungs.

"You see, most people are not just hit out of the blue with an asthma attack. There are little signs that tell you that an attack is about to happen. Some people get early warning signs from their bodies, like getting a sore throat or a cough. Other people get early warning signs from their feelings, like feeling cranky or sad. Most people feel a combination of both kinds of signs. There are also a very few people who do not get early warning signs of asthma. But if most people observe very carefully, they discover what their own early warning signs are. And early warning signs are different for different people."

"Dr. Q, I think that I'm one of those people who doesn't get any early warning signs," I said. While he was explaining about early warning signs, I had thought and couldn't come up with a thing.

"One minute I'm fine and the next, I just can't run. It sure ruins my baseball," I said.

"Well now, Marvin, I just can't be sure. You may be one of those people. But I still want you to observe very carefully for the next few weeks and see what you can discover. Here's a list for you to take home that may help you with your discoveries."

Here's what the list looked like:

There are things that people with asthma have said are early warning signs of asthma for them. See if any of these signs are signs for you. There is space at the bottom for you to add any signs that are not listed.

_____breathing slows down
_____get watery eyes
_____feel funny in chest
_____feel clammy
_____get headache
_____feel feverish
_____feel spacey
_____get a dry mouth
_____get upset
_____get scratchy throat
_____get excited
_____get itchy throat
_____get nervous

_____cough
_____sneeze
_____get a runny nose
_____get pale
_____heart beats faster
_____get tired
_____want to be alone
_____get quiet
_____feel weak
_____slow down
_____feel grumpy
_____feel restless
_____feel mopey

_____ _____

_____ _____

I told you before that I'm on this baseball team, the Menominee Marvels. Well, even before the season begins a bunch of us get together after school and practice. Sometimes I'd play real well, and other times, I could barely make it through a few innings. It just seemed to be that way—sometimes I'd be OK and others, I just had a hard time.

After I got Dr. Q's lecture and looked over his list, I tried to discover what my early warning signs were. I began to notice that I'd get really dry and thirsty awhile before I'd start to wheeze. Getting dry and thirsty were some of my early warning signs of asthma! Then I realized that I'd get dry and thirsty some afternoons in school. This was getting exciting, becoming a detective and starting to put the evidence together.

I tried an experiment to confirm these alleged early warning signs. Everytime I noticed that I was getting dry and thirsty, I started to drink a lot of water and kind of took it easy. I'd go easy on the playground at recess, and I'd drink as much water as I could. It was kind of hard to tell, but it seemed to be working! I was getting less tired during baseball after school.

I got into the habit of checking every day to see if I had either of those early warning signs. Now I'm not the best person in remembering to do things. Mom is always yelling at me to make my bed and that sort of stuff. But I came up with a plan to help me remember to check myself about my newly discovered early warning signs. It went this way.

To go outside for afternoon recess, we have to go out the side door by the water fountain. So on the way out, I'd see the water fountain and that would remind me to think about whether I was dry and thirsty. I sort of made myself take a drink of water every day, but on those days when I realized that I was thirsty, I'd know it was time to slow down and drink a lot more.

I slowed down on the playground, too, on those "dry and thirsty" days. It wasn't always easy to slow down, but I decided that I really wanted to play baseball more, so I saved my energy until after school and baseball.

I told Dr. Q about my discoveries when I went in to see him. He just sort of grinned and acted like *he'd* been the one who was the detective! He went on to explain that I wasn't really saving energy by not playing hard at recess. What I was doing was paying attention to my early warning signs soon enough that I prevented an attack.

"For some reason, you get a lot of attacks after school. By taking it easy in the afternoon, you seem to be able to prevent many of them from becoming bad or from happening at all. I'm proud of what a good detective you've become, Marvin. And by acting when you notice an early warning sign, you've helped yourself and your ball playing!"

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

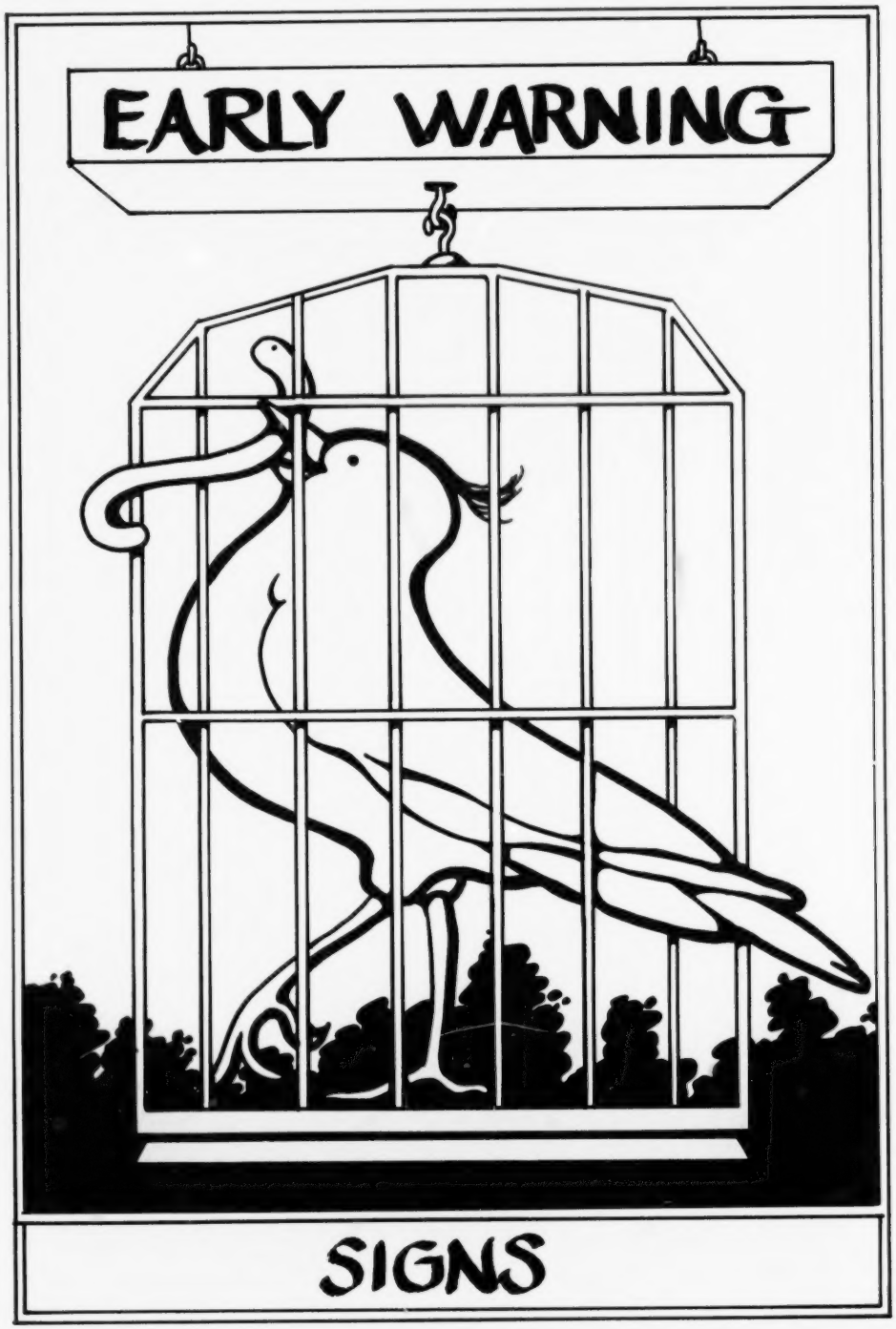
These were the signs of asthma that I observed: _____

To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

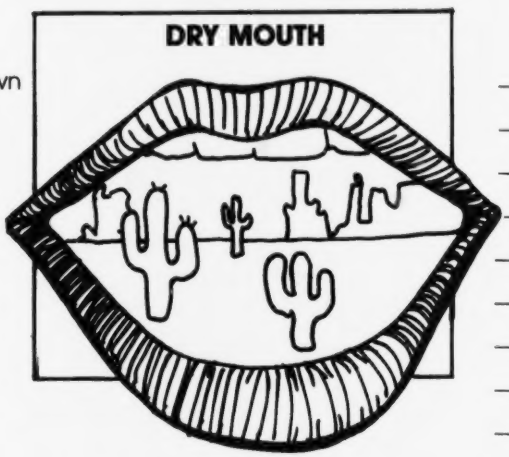

EARLY WARNING
SIGNS

EARLY WARNING SIGNS

Here is a list of things that other people have said are early warning signs for them. See if any of these things happen to you before you have an asthma attack.

Read through the whole list first, then go back and check any that are early warning signs for you. Use the space at the bottom to list any signs that are not printed on the list.

_____ breathing slows down
_____ feel funny in chest
_____ heart beats faster
_____ get headache
_____ feel feverish
_____ feel clammy
_____ feel spacey
_____ feel nervous
_____ feel sad
_____ feel mopey
_____ feel grumpy
_____ feel restless
_____ get upset
_____ get quiet
_____ want to be alone
_____ am tired
_____ slow down



WATERY EYES . . .

_____ feel week
_____ sore throat
_____ itchy throat
_____ scratchy throat
_____ itchy chin
_____ dry mouth
_____ head plugged up
_____ cough
_____ sneeze
_____ glassy eyes
_____ dark circles under eyes
_____ watery eyes

_____

_____

_____

_____

EARLY WARNING SIGNS

Early warning signs of asthma are how you feel and what happens in your body *before* you start to wheeze or have an asthma attack.

Early _____ signs of asthma are how you _____ and what happens in your body before you have an asthma attack. You have early warning signs _____ you have an asthma attack.

Most people have some kind of warning signs. . . .

BUT

different people have different warning signs. . . .

MARY—
Gets tired, grumpy, feels weak; sneezes, coughs, gets a runny nose, a sore throat and feels spacey. . . .

JOHN—
Just gets a *dry mouth*

No one else can tell you how you feel before you have an attack. Sometimes your family can help you figure out what your early warning signs are, but **YOU** know best how you feel inside.

Early warning signs are different for _____ people. Your _____ can sometimes help you figure out some of your signs. Early warning signs tell you that an attack may be _____.

DISCOVERING EARLY WARNING SIGNS

Some detective skills can help you discover more early warning signs.

(1) Look at things carefully—OBSERVE for evidence
(2) Talk to other people—GATHER evidence
(3) Write things down—REMEMBER evidence

Ways to Discover Early Warning Signs

Look and listen to what your body is telling you.

For Example: When John's eyes water, his body is telling him that his eyes are tired.

When your stomach growls, your body is telling you that _____
When your throat is scratchy, your body is telling you that _____
_____

Ask Your Family to Help You.

For Example: Sit down with your family and talk about your early warning signs. Ask them if they notice any changes that happen to you before you start to wheeze or have an attack. Go over the list of early warning signs together.

Go Over The Early Warnings Sign List Again.

For Example: As soon as you can after your next attack, look through the list again. Did you feel any of those ways before this last attack? Check them off if you did.

CHILDREN'S SESSION FOUR

EARLY WARNING SIGNS AND REMEMBERING

GOALS

- To stress early recognition and management of asthma symptoms
- To discuss ways of remembering and learning new habits

RESOURCES

Leader Background Material:
- How to Use Situation Cards
- Situation Card Problems
- Sample Solutions to Situations
- How to Practice Belly Breathing
- Leading Relaxation Exercises
- Marvin Marvelous Story: March Breezes Bring on the Sneezes

Supplies:
- Unlabeled lung diagram
- Mats for relaxation exercises (optional)
- Blackboard and chalk or flipchart and markers
- Crayons and pencils

Handouts:
- Asthma Report Forms
- Quick Quiz
- Dr. Q's News: Early Signs
- Asthma Crossword

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome		
Review	Physiology of Asthma and Lung Attack Management Medicine: Take It and Take It On Time Relaxation Early Warning Signs Quick Quiz	Quick Quiz
Early Warning Signs	Dr. Q's News Situation Card Discussion	
Remembering	Discussion of Remembering Tricks to Help Remember to Do Certain Tasks	
Belly Breathing	Practice Belly Breathing	
Relaxation	Relaxation Exercises	
Triggers and Taking Medicine on Time	Marvin Marvelous Story: March Breezes Bring on the Sneezes	Marvin Marvelous Story: March Breezes Bring on the Sneezes
Review		Asthma Crossword

CHILDREN'S SESSION FOUR

EARLY WARNING SIGNS AND REMEMBERING— TEACHING NOTES

Welcome

Hi everyone. Welcome back. How many of you remembered to bring your notebooks? Good for you!

How was your week?

Try to find something positive to say to each child. Remember that not each child will have had the chance to write down a report as they may not have had trouble. Comment on how nice it must have been not to have had trouble that week.

How many remembered to fill out the ASTHMA REPORT FORM this week?

Look at each child's report form, asking any questions that you need to for clarification. Praise those who did a good job:

"You were a good observer this week!" Or "You remembered to write down the time you had trouble this week; that's great!"

Hand out new asthma report forms.

Here are your Asthma Report Forms for next week. Try to remember to fill them out each day and bring them back next week.

Review:

Do a quick oral review of the important concepts covered so far. Questions from the Marvin Marvelous Game can be used. (See session 7.) No matter what form you use, include questions that cover the following areas.

We've been learning so many new things over the past few weeks. Let's take a few minutes to review and remember what we've talked about so far.

1. Physiology of asthma and the lungs

First of all, who remembers the names of all the parts of our breathing machinery. Do you remember this picture?

Point to unlabeled lung diagram.

You have one just like it in your notebook. Who can tell me the names of these things?

Point to lungs, bronchial tubes, alveoli.

Now, who remembers what happens when we have asthma?

Encourage children to contribute ideas.

That's right. The muscles tighten around the airways, the inside of the breathing tubes swell, and lots of mucus is made.

2. Asthma management

O.K. Do you remember the rhyme about the things we do when we feel an attack coming?

Encourage children to respond with "think, drink . . . " rhyme.

Good. We rest, relax, drink warm liquids, take medicine, tell an adult, and do belly breathing.

Praise specific children for specific things they remembered.

You are all really good "rememberers."

3. Asthma medications—TAKE IT AND TAKE IT ON TIME

Who remembers Dr. Q's motto for taking medicines?

- Call on a volunteer.

That's right: Take it and take it on time.

4. Relaxation

Does anyone have a special word or scene you used to help you relax that you'd like to share?

- Call on each child in turn.
- Reinforce for using good relaxer words.

If you didn't have a relaxer word this week, try to think of one for next week.

5. Early warning signs

Last week we began to talk about early warning signs. Who noticed some early warning signs last week? What were they?

- Try to elicit responses from everyone.

Review: Quick Quiz

For younger children, the leader may wish to read the questions aloud and let the children respond orally. It may take too long for them to write the answers.

Cover any concepts you feel need more time or explanation. Early warning signs seem to be a difficult concept for many children.

This is a little quiz just to see how much you remember.

- Pass out quick quiz.
- Allow time for children to complete.
- Go over quizzes together.

Early Signs Activities

Let's talk some more about early warning signs. Look at your Early Warning Signs booklet. Let's see who has these early warning signs.

Early Warning Signs Booklet

Use the last 2 pages of the Early Warning Signs Booklet if you have not yet completed them.

- Read list of early warning signs and have children "vote."
- Write the most common ones on the board.

Don't forget that when you notice an early warning sign there are important things to do. Who remembers them?

- Call on volunteers.
- Reinforce for correct asthma management steps.

Remember: Rest and relax
Drink warm liquids
Take your meds.

We have another rhyme about what to do if you notice an early warning sign:

To control an attack
Keep this in mind:
Act when you notice
An Early Sign.

Let's all say it together.

- Repeat rhyme with class several times.

Dr. Q's News: Early Signs

Use Dr. Q's Early Warning Signs News to further reinforce the concept. With all the paper, be careful that the children are not becoming inundated and numb to the information presented.

Here's some news from Dr. Q.

Hand out Dr. Q's News.

Read and explain it to younger children. Then have them color it.

Have older children read it out loud and fill in the blanks.

Situation Cards For Early Signs

See How to Use Situation Cards in leader background material.

I have a card here for each of you. On the card is an imaginary situation. I want you to pretend that you're the person the card is describing. How do you think you'd deal with the problem that is described?

Allow time for class to come up with solutions.

Then call on each in turn.

Encourage discussion and idea sharing.

Discussion: Remembering

Do you ever forget your meds? It is a very comon problem with all people who have to take medicine.

Allow time for response.

Does your Mom or Dad remind you? How do you feel when they remind you all the time? Does it sound like nagging?

Allow time for response.

How do you think adults remember to do the things that they have to do? Sometimes adults are terrible rememberers too. Do you know any adults who never remember what they have to do?

Tell the story of the important businessman who takes his shoe off and places it at his office door when he has something that he has to do before he leaves the office.

Strange and crazy things sometimes work well to help you remember!

Here are some tricks to help you remember:

1. Write notes and pin them up in places where you will see them.
2. Tie a string around your finger.
3. If you wear a ring, switch it to another finger or turn it around the wrong way."

To learn a new habit and remember to do something, it helps to keep track of each time you do it, like writing down when you practice your belly breathing on your Asthma Report Forms. It may help to put the form somewhere you can see it.

It sometimes helps to try and link something you want to remember to do with something that you already do automatically. Like taking medicine before you eat breakfast. Put the pill bottle on your plate or bowl before you eat.

You can use tricks such as putting a big poster on the refrigerator that says FAT FACTORY for someone who wants to lose weight; or you can keep a chunk of lard in the refrigerator to keep yourself from eating.

Have each child think of some activity that they forget to do that they would like to remember to do, such as feeding the family pet, taking their medicine, filling out their asthma report forms, making their beds, etc.

Next have them think of a gimmick or trick to help them remember to do the task until it becomes a habit.

Have them share their ideas with the group.

Problem solve with any who need help with habits related to asthma management.

Belly Breathing

Refer to instructions in session 2 and leader background material in this session.

We've been sitting in one spot for a long time. Let's get up and stretch for a minute. Now find a space to put down your mats and practice belly breathing 10 times. I'll count for you.

Count slowly from 1 to 10.

Relaxation

O.K. Let's practice relaxation for a few minutes. It's really important to be able to relax whenever you need to.

Here's another trick for you. If you tighten a muscle and then relax it, it gets even more relaxed than if you just think about relaxing.

Show them how you want them to tighten each major muscle group:

1. **Hands—clench fists and push elbows into floor, hold it and release.**
2. **Facial muscles—raise eyebrows, grin widely and grit teeth, hold it, then release.**
3. **Chest, stomach, and back—take a deep breath in, push stomach out and pull shoulder blades together, hold it, then release.**
4. **Legs—push heels straight out in front of you and bend ankles as if you are trying to get toes to touch the forehead, hold it, then release.**

Leading The Exercises

Let's do the relaxation practice we did last time. First, make yourself as comfortable as possible. Be sure that your weight is fully supported and you are as comfortable as possible. Move around a little to be sure you have found the most comfortable position for your body.

Now shut your eyes and get as relaxed as you can. Listen real carefully to my voice and concentrate on what I'm saying. What we're doing is a little bit like being hypnotized but you can stop anytime you want. If you feel uncomfortable just open your eyes and sit quietly until we're all finished.

Speak in a slow, soft monotone. Pay attention to how the group is responding and see if they seem comfortable with the exercises. Keep the talking to a minimum. If they are having a hard time, keep up a running patter in a quiet monotone. You will have to gauge the group while you are doing the relaxation.

Spend enough time so that most of the kids achieve a level of relaxation in which their breathing is deep and regular.

Keep your eyes shut and breathe normally for a few times . . . just relax and think of some place that is peaceful for you. Maybe it will be floating in space, maybe floating on a quiet lake . . .

Try to let go a little more each time you breathe out . . . Feel yourself sinking deeper into yourself. . . Just think of a peaceful scene and enjoy.

Okay, it's time to stop for now, slowly open your eyes. Just stay still for a few minutes, it is like waking up . . . Now slowly move around a little . . . And now get up.

Let's go back to our places.

What did it feel like to be relaxed? Who can tell us about their own peaceful scene?

Call on volunteers.

When you were real relaxed, how many of you felt real warm?

Raise your hands if you felt heavy.

Did anyone feel like you were sinking?

Who felt like you were floating?

Allow each child to contribute.

When you need to relax, keep your special scene or that special feeling in your mind.

You can try relaxation exercises whenever you feel panicky about breathing or whenever anything upsets you. Has anyone thought of a new or different scene to keep in your mind when you want to relax?"

O.K. Now that we're all relaxed, let's come back to our seats.

Story: March Breezes Bring On The Sneezes

Older children may prefer to read the story silently. Be sure to discuss all important messages.

Read "March Breezes Bring On The Sneezes" to the children or have them take turns reading it.

There are a lot of important messages to be learned from this story:

- Often attacks are caused by *many* triggers.
- Forgetting to take your medicine or just not taking your medicine can cause an attack.
- It is important to "Take it and take it on time." Take your medicine on time!
- By carefully analyzing activities and thinking about how you feel you can discover some of your triggers and prevent an attack.

I hope you enjoyed the story and can remember these messages.

Final Activity

Asthma Crossword Puzzle

This is optional depending on time remaining and amount of reinforcement needed.

Hand Out Asthma Crossword Puzzle.

This puzzle is fun to do. You can finish it at home if we don't have time today.

Reminders

Well, that's all for today. We learned a lot about early warning signs. There's a lot to remember for next week. Try to remember to fill out and bring back your asthma report forms.

Don't forget to bring your notebooks again. We'll have some more booklets to put in next week.

Remember to practice your belly breathing every day.

If you notice early warning signs this week, be sure to remember them for us. We'll want to hear about them next week. Use the last page of the Early Warning Signs booklet and ask your family to help you.

HOW TO USE SITUATION CARDS

The "situation card problems" listed on the next page represent realistic problems or dilemmas that a child with asthma may encounter. The problems should be photocopied and pasted individually on 5" × 8" index cards. In all the remaining sessions this teaching device can be used to illustrate ways of dealing with early signs of asthma, triggers, emergencies, and miscellaneous situations. It is a useful method to give the children an opportunity to rehearse their responses to asthma-related problems.

The suggested solutions are examples of acceptable types of answers because they are consistent with self-management concepts. Many other answers are possible and the children should be encouraged to use their imaginations and be original in their approach to problem solving. Positive reinforcement and encouragement should be offered for all ideas that require the child to:

- Take responsibility for self-management.
- Use preventive measures.
- Recognize early warning signs and act accordingly to lessen the severity of an asthma episode.

The situation cards can be used in different ways depending on the group leader's wishes. One method involves having the children role play. First, the children divide into groups: pairs or groups of pairs, as needed. Each group is given a situation card. The pair or pairs then spends 5 minutes or so deciding what they'll do and "rehearsing" how they'll present their scene to the "audience," the rest of the group. During this time the children should have some "privacy," such as hallways or separate corners of the room.

The leader should circulate and help those who are having difficulty coming up with a solution to their situation. When the children are ready, everyone watches the situation being acted out. Clap after each performance. After clapping, discuss the following:

- What was the situation?
- What solution did they chose?
- How do you feel about the solution they chose?
- Has anything like that ever happened to you? What did you do?

Then the next pair presents. Encourage solutions that show good self-management skills. The questions and discussion can go on as long as desired.

To help the group warm up to the idea of role playing, the leader may choose to "act out" a situation with a volunteer. After the first situation is role played a discussion can follow, or the leader may pass out the rest of the cards to have the group try role playing.

Other ways in which the situation cards can be used include the leader reading a prepared dialogue for a situation to illustrate an important concept. A discussion on the dialogue can then take place. As an alternative the leader can read each situation and have each child in the group offer a solution. If the solutions seem too easy, challenge the answers and ask probing questions. Playing "devil's advocate" may help the child think of a better solution. Do not accept answers in which the child merely gives up.

The leader should feel free to use the cards as he or she wishes. Different methods will work with different groups. Experiment. Whatever the method used with the cards, it is important to:

- Find ways to reinforce the solutions or resolutions that help the child learn independence for his/her asthma management.
- Ask the group for comments when you see a solution that is not appropriate. Then be prepared to model a more appropriate solution if necessary. Use questions and leads such as "Does anyone see another way to handle the situation?" Ignore or downplay inappropriate solutions.
- Remember that there are many possible solutions to the card situations. Before you use them, go through and decide how you would react to each situation. Then during the discussion, be receptive to other options that are presented.
- Accentuate the positive at all times. Try to find something positive to say to each group or individual who presents a solution. You serve as a model reinforcer to the rest of the group.

Early Warning Sign Situations

1. Your first karate class is in an hour. You realize that you have been sneezing alot. That is sometimes an early warning sign for you. WHAT SHOULD YOU DO?
2. You are in history class watching a movie. You begin to wheeze. WHAT SHOULD YOU DO?
3. Your class is going on an all day picnic and nature walk today. You really want to go. You wake up with a slight cold. Your mother looks at you at breakfast and says, "I really don't think you should go today. You know how sick you get." WHAT SHOULD YOU DO?
4. You have been tired all day. You are planning to go to bed early tonight. Your best friend calls and asks you to come over and watch a late night movie. WHAT SHOULD YOU DO?
5. You are in math class. You begin to feel funny and have an itchy throat. Those are some of your early warning signs. WHAT SHOULD YOU DO?
6. The guys need another player and you want to join. You run inside for your glove and notice that your throat is itchy. WHAT SHOULD YOU DO?
7. It's springtime, your worst asthma season. Your best friend has invited you to spend the weekend with him/her in the mountains. The day that you are to leave, you realize that you don't feel too well. No one knows how you feel and you really want to go. Your friend calls to say he/she'll be there in half an hour. WHAT SHOULD YOU DO?

Miscellaneous Situations

1. You're playing basketball outside. You start to get tired and sit down to rest. One of the players says, "Come on you can't stop now. We really need you." WHAT SHOULD YOU DO?
2. You want to join the gymnastic team. The coach doesn't think that you should join because the practices are hard and he's afraid you may have an attack. WHAT SHOULD YOU DO?
3. You are on a picnic in the park with your class. There is a softball game and you want to play. The teacher says you can't because you might get sick. WHAT SHOULD YOU DO?
4. You have been having trouble breathing all day and are not feeling well. You've taken all the inhaled medicines that you can today. Your parents are going out to a special party tonight and come in to say goodbye before they leave. WHAT SHOULD YOU DO?

Early Warning Sign Situations

1. Your first karate class is in an hour. You realize that you have been sneezing a lot. That is sometimes an early warning sign for you. WHAT SHOULD YOU DO?
   A. Go to karate class. Be aware that you are experiencing an early sign and be sure to keep track of how you are feeling. You may have to rest during the class. If you feel worse, sit down and rest, and drink something warm. Take it easy if you start to feel bad. Having an early warning sign should not prevent you from going to class.
2. You are in history class watching a movie. You begin to wheeze. WHAT SHOULD YOU DO?
   A. Without making a scene or disturbing the rest of the class, make arrangements with your teacher to get up to take your medicine. Get something to drink. Do not ignore the wheezing—it will just get worse.
3. Your class is going on an all day picnic and nature walk today. You really want to go. You wake up with a slight cold. Your mother looks at you at breakfast and says, "I really don't think you should go today. You know how sick you get." WHAT SHOULD YOU DO?
   A. The solution to this situation depends on the age of the child. Reassure your Mom that you are responsible in handling your asthma attacks and taking your medication. Take your medication along and something to drink. Do not scream or throw a temper tantrum if you cannot go.
4. You have been tired all day. You are planning to go to bed early tonight. Your best friend calls and asks you to come over and watch a late night movie. WHAT SHOULD YOU DO?
   A. • Say you can't tonite and suggest you get together tomorrow.
   • Say yes but take a nap before you go.
   • Say yes but sleep later the next morning.
   • Ask your friend to come to your house. Fall asleep in front of the TV.
5. You are in math class. You begin to feel funny and have an itchy throat. Those are some of your early warning signs. WHAT SHOULD YOU DO?
   A. The best thing to do is excuse yourself and get something to drink or take your medicine. If you notice you are feeling worse, do not ignore it. Rest, drink warm liquids, take medication, relax.
6. The guys need another baseball player and you want to join. You run inside for your glove and notice that your throat is itchy. WHAT SHOULD YOU DO?
   A. Drink something warm. If you have pretreatment medication for exercise, take it. Keep tabs on how you are feeling.
7. It's springtime, your worst asthma season. Your best friend has invited you to spend the weekend with him/her in the mountains. The day that you are to leave, you realize that you don't feel too well. No one knows how you feel and

you really want to go. Your friend calls to say he/she'll be there in half an hour. WHAT SHOULD YOU DO?

A. • Call back and say you are not feeling well. Ask if they are going again later in the season and ask if you could go along then.
- Let your parents know how you feel. See if they think you can go.
- Tell your friend you are not feeling well. Talk to his/her parents. Tell them how you feel. Ask then if you could go, but if you could stay in the cabin and take it easy the first day.
- Plan to go and take your meds with you. Ask how isolated the cabin is and ask where the closest hospital/clinic/doctor is. Be sure you know where emergency services can be found in that area.

Miscellaneous Situations

1. You're playing basketball outside. You start to get tired and sit down to rest. One of the players says, "Come on you can't stop now. We really need you." WHAT SHOULD YOU DO?

   A. • Say you're sorry but you have to rest so you don't have an attack.
   - Stand up for your right to take care of yourself.
   - "It's *my* lungs, buddy. I have to rest."

2. You want to join the gymnastic team. The coach doesn't think that you should join because the practices are hard and he's afraid you may have an attack. WHAT SHOULD YOU DO?

   A. • Explain that you know how to take care of your asthma.
   - Explain that attacks do not usually occur without warning.
   - Tell him you really want to try gymnastics and you will rest when you feel the need to.
   - Tell him that some Olympic athletes and professional sports figures have asthma and perform well.

3. You are on a picnic in the park with your class. There is a softball game and you want to play. The teacher says you can't because you might get sick. WHAT SHOULD YOU DO?

   A. Talk to your teacher and explain about asthma. Say that you are not having problems right now. Tell her the things to look for when you might be getting sick and try to educate the teacher about asthma. When you go home let your parents know so they can discuss the situation with your teacher at a later time.

4. You have been having trouble breathing all day and are not feeling well. You've taken all the inhaled medicines that you can today. Your parents are going out to a special party tonight and come in to say goodbye before they leave. WHAT SHOULD YOU DO?

   A. • Be sure to tell your parents how you are feeling.
   - Get the phone number where you can reach your parents and promise to call if you feel worse.
   - Be sure you know the emergency number to call if you should need it.
   - Rest, relax, and drink warm liquids.

HOW TO PRACTICE BELLY BREATHING

1. Lie on the floor, bend your knees, keep your feet on the floor, and put one hand on your chest and the other hand on your stomach.
2. Breathe in through your nose, and make your stomach get round like a ball. Your chest should not move.
3. Blow all the air out through your mouth with your lips pursed, and use the hand on your stomach to help you push all the air out. Your stomach should be flat.

Practice belly breathing 10 times, slowly, making sure that your chest remains still. Try practicing this twice-a-day.

Whenever you have a hard time breathing, sit, leaning forward with a straight back, arms on your knees. Now breathe through the nose, then blow all the air out through the mouth slowly, keeping your chest still. Breathing this way may make you feel better and less tired.

LEADING RELAXATION EXERCISES

The relaxing procedures given here are an abbreviated version of Jacobsen's deep muscle relaxation exercises that were developed in the 1930's.[1] These exercises are based on the idea that by tensing and then releasing various muscles, these muscles and the whole body come to a state of deep relaxation. By practicing these exercises, a person can learn to relax quickly, eventually dispensing with the tightening and tensing part of the exercise. To get to this advanced stage does take faithful practice, usually with professional help. But anyone who understands the general principles can use the exercises themselves to learn to relax. A longer version of the exercises is offered here as an option for the teacher who wants to spend more time. This can be used with children who need extra practice.

Setting

You should have a quiet, dimly lit place to lead the exercises. Each class participant needs a reclining chair or pad for the floor. It is important that all parts of the body be supported while practicing. The setting should lessen distractions and promote concentration on the relaxing. You will need a stopwatch or clock with a second hand to time the tensing and relaxing periods.

Guidelines

Each practice session may last up to 30 minutes; most will be shorter than that. Because participants' eyes are closed for the exercises, have class members remove contact lenses or glasses before beginning. Gum should be discarded. There is no talking during the session except for the instructions. If an instruction must be repeated, arrange ahead of time for a signal. Raising the index finger is a common signal that is used for this purpose during relaxation.

Show the class generally how to do the tensing and releasing that are central to the exercises. Then have the class lie back and follow your instructions with their eyes closed. The instructions are usually delivered in a monotone.

Commercial taped versions of these exercises are available from publishers of psychological works. Tell class members that doing these exercises is easier if they use a tape or follow instructions from another person.

Basic Instructions to the Class

"What follows is a sample of what the tensing/relaxing instructions will sound like as you listen to me guide you through the exercises. The general instructions and muscle groups are fairly standard. If a particular tensing exercise does not seem to be right for you, try to discover another way to tense that particular muscle or muscle group and substitute your own exercise. Experiment with finding a substitute at some time other than during our practice sessions. Try to concentrate and ignore any distractions.

"When you are instructed to 'tense' a certain muscle, you should tighten and tense it, but stop short of cramping it. You are to *hold the tightness* for approximately *5 to 7 seconds* for each muscle. When you let go of the tightness, do it all at once, quickly. Then stay in that *relaxed state for approximately 30 to 40 seconds.* Concentrate on how good it feels in that relaxed state. While relaxing, many people experience a heavy, warm feeling. Just let yourself sink into the comfortable, relaxed

[1]Jacobsen, E. *Progressive Relaxation.* Chicago: University of Chicago, 1938.

state and savor it. An important part of the exercises is to become conscious of how your body feels when it is tense, and in contrast, how it feels when it is relaxed.

"In the beginning, it helps many people to practice tensing and relaxing each muscle twice: tense and then relax the muscles of the hand, then repeat the tensing and relaxing of the hand muscles again. Then move on to the arm muscles. After you have practiced several times and find that you can relax your muscles well, you can dispense with doing the tensing twice. Later you can also start to group muscles into larger units, such as tensing your hand and arm muscles at the same time.

"Outside of class you should practice at least two times each day. Many people find it easiest to practice at set times each day.

"Some people create a calm, peaceful scene or image in their mind to help them relax. Feel free to imagine and visualize any image that helps you become comfortable. Some common words and images about relaxation are floating in space, sinking or floating down through layers of relaxation, warmth, heaviness, soothing, loose, spreading relaxation, limp, etc. Any image or word that helps you relax can be used. Substitute your own word for any word in these exercises that you do not like or makes you uncomfortable."

Muscle Groupings Sequence

"The muscles of the body are tensed and relaxed in the following sequence:

1. Hands, lower arms;
2. Upper arms, shoulders;
3. Scalp, forehead, eyes;
4. Eyes, nose, mid facial muscles;
5. Lower facial muscles, jaw, mouth;
6. Neck
7. Chest, shoulders, upper back;
8. Lower back, stomach;
9. Buttocks, hips;
10. Thighs;
11. Lower leg, calf; and
12. Feet."

Leading the Exercises

"Let's begin relaxation practice. First, make yourself as comfortable as possible. Be sure that your weight is fully supported and you are as comfortable as possible. Move around a little to be sure you have found the most comfortable position for your body.

"Now close your eyes and relax. Take a deep breath and let it out slowly, feeling yourself release tension as you let out your breath. Just let yourself relax as much as possible, breathing in and out in a comfortable, relaxing way. Before we begin the tensing and releasing exercises, remember to pay attention to the muscles as I name them and also to the way it feels when you tense them, then the way it feels when they are relaxed.

"Now we will begin. With both of your hands make a tight fist and squeeze hard. Keep squeezing and hold it tightly for 5 to 7 seconds. Feel the tension in your hands and lower arms."

Use stopwatch or clock for 5–7 seconds

"Okay, now relax, let go all at once quickly. Let the tension flow out the tips of your fingers. Notice the difference in the way your hands and lower arms feel now. You may feel warmth spreading through your hands and arms. Take time to feel how good it is to have your hands so relaxed. Stay relaxed for a total of 30 to 40 seconds.

"As mentioned before, the first few times you practice, it is helpful to do the tensing and relaxing sequence twice with each muscle group. So repeat the tightening and relaxing of your right hand and lower arm now. For the rest of the exercise, I will remind you to repeat each sequence.

"We will move to your upper arm muscles. To tense these, push your elbows down against the chair or floor. Push them now and hold it. Hold it and feel the tension throughout your upper arms and shoulders for 5 to 7 seconds."

Use stopwatch or clock for 5–7 seconds

"Now relax, relax your arms completely. Feel your relaxation spreading throughout your upper arms and shoulders. Just concentrate on the nice feeling of being relaxed. It is important to pay attention to the feeling of relaxation so you learn the difference between the feelings of tension and relaxation."

Let 30–40 seconds elapse

"Again, tense and relax your upper arms, following the same time sequence as before. An alternate way of tensing your upper arms is to press your elbows down and at the same time pull your elbows in toward your body. Use which ever method works best for you.

"We will move to the muscles around your face and neck next. While you are tensing and relaxing these muscles, try to let your arm and hand muscles stay relaxed.

"To tense your face muscles, lift your eyebrows as high as possible and keep them there. Do this now, and feel the tension around your eyes and forehead. Good."

Let 5–7 seconds elapse

"Now let it go. Relax and feel your scalp smoothing out as the tension is released. Focus on the calm feeling of being relaxed and comfortable. Some people feel a tingling after doing this exercise. Just relax and enjoy this feeling of relaxation."

Let 30–40 seconds elapse

"Tense and relax eyebrows again.

"Now we will move down your face to your nose and cheeks. To tense this area, squint your eyes and wrinkle your nose at the same time. Do this now and hold it tightly. Feel the tension across your nose and around your nose."

Let 5–7 seconds elapse

"And relax all at once. Feel the tension flow out of your face, across your cheeks and away. A wave of relaxation flows over your face. Just enjoy that feeling."

Let 30–40 seconds elapse

Repeat exercise for face and nose

"Now we will move to your lower face and jaw. To tense this area, bite your teeth together hard, holding your teeth together, and pulling the corners of your mouth back. Do this now and feel the tightness in your facial muscles. Hold it for 5 to 7 seconds."

Let 5–7 seconds elapse

"Now relax. Let go of that tightness all at once. Your jaw will hang loose and relaxed. Your mouth may be open slightly. Attend to the feeling of having your face relaxed. How good it feels!"

Let 30–40 seconds elapse

Repeat exercise

"Next we will move to your neck muscles. To tense the muscles in your neck, pull your chin toward your chest, but keep it from touching your chest. Feel the tension in the front and back of your neck as you strain. Hold it tight for 5 to 7 seconds."

Let 5–7 seconds elapse

"Now let it all go. Let your head fall back naturally, without any tension. Just relax and attend to the feeling. You may feel waves of relaxation sweeping over you."

Let 30–40 seconds elapse

Repeat exercise

"Let's review the muscle groups that we have covered so far. As I name the muscles, focus your attention upon them. If you feel any tension in that muscle, try to let that tension go as I name the muscle. If you have a lot of tension, then do the tensing and relaxing exercise for that muscle. I will wait until you are done before moving on to the next muscle group.

"Focus on your hands. They may feel warm and heavy. As you breathe in and out, see if you can let any more tension out of your hands."

Let 10–25 seconds elapse

"Move up to your lower arm muscles."

Let 10–25 seconds elapse

"Now, upper arm muscles."

Let 10–25 seconds elapse

"Become aware of how comfortable and relaxed your hands and arms are. Completely relaxed and comfortable. Enjoy how good it feels. Now your face and neck muscles. If there is any tension, think of letting in drain out of your face, down your forehead, over your cheeks, through your neck, down your arms, and out the ends of your fingertips. You should feel warm and relaxed.

"Next we will move on to the muscles of your chest and stomach. To tense the muscles of your chest, shoulders, and upper back, pull your shoulder blades together. Think of making them touch. Do this now and pull them tightly together. Hold the tension and feel it."

Let 5–7 seconds elapse

"Now let it all go. Let your shoulders slump into a comfortable position. Allow your upper trunk to feel completely relaxed. Become aware of how slowly and calmly you are breathing. Just relax."

Let 30–40 seconds elapse

Repeat exercise

"Next we will work on your stomach muscles. To tense the stomach muscles, suck your stomach muscles in as if you were trying to have your stomach muscles touch your back, as if someone was about to hit you hard in the stomach and take your breath away. Hold it. Concentrate on how knotted up those muscles feel."

Let 5–7 seconds elapse

"Now relax, let your stomach hang free. Just relax and let a little more tension go with each breath that you breathe out. Feel your stomach uncoil. Just enjoy the feelings of the muscles as they loosen up, smooth out, and relax more and more."

Let 30–40 seconds elapse

Repeat exercise

"You are probably feeling deeply relaxed from the waist up now.

"Next let's move to the muscles around your buttocks and hips. To tense the muscles in this area, squeeze your buttocks together hard and hold it. Do it now and study the tension that is created."

Let 5–7 seconds elapse

"Now relax. Just take a few seconds to feel your muscles spread out. Sink into the feelings of being really relaxed."

Let 30–40 seconds elapse

Repeat exercise

"Moving down to the muscles in your thighs, tense these muscles by tightening them. Feel how hard your thighs become."

Let 5–7 seconds elapse

"An alternate method of tensing here is to lift the legs very slightly to create tension in the thighs.

"And relax. Let all the tension go from your thighs. Feel those muscles smooth out as waves of relaxation come over you. Settle into the comfortable feeling of being relaxed."

Let 30–40 seconds elapse

Repeat exercise

"Okay, now tense your calf muscles by bending your toes back and stretching your legs out in front of you. Bring your toes back as if you're trying to touch them to your knee caps. Hold that tension."

Let 5–7 seconds elapse

"And now relax. Your legs will flop back on the chair or floor. Feel how heavy your legs feel. They are comfortable and relaxed. Pay attention to how you feel now. Comfortable . . . . calm and relaxed. Just enjoy those feelings."

Let 30–40 seconds elapse

Repeat exercise

"The next and last parts to relax are your feet. To first tense the muscles in your feet, point your toes hard toward you. Now point them as hard as you can away from you and hold that tension."

Hold no longer than 5 seconds for feet

"And let it all go. Feel your feet grow warmer as the relaxation spreads over them. Enjoy that feeling of the muscles smoothing out. Relax and attend to the feeling."

Let 30–40 seconds elapse

Repeat exercise

"Now let's review the muscle groups from your neck down. As I name them, concentrate on that muscle group and see whether there is any tension there. As I say them, try to let yourself relax the muscles even more. If there is tension in a muscle that I name, do the tensing and releasing exercise for that muscle. I will wait until you are ready to go on. With each breath, enjoy a deeper state of relaxation.

"All right, now concentrate on your upper chest. If there is any tension there, let it go. Let it flow from your body."

Let 10–25 seconds elapse

"Next think about your stomach. Let any tension go from there. Feel how smooth and comfortable all the muscles in your trunk feel. Just enjoy."

Let 10–25 seconds elapse

"Last, your legs and feet. They should feel comfortable and relaxed. The muscles are all unwound and stretched out. Enjoy relaxation and see if you can breathe out a little more tension with this next breath.

"Continue relaxing for the next few minutes. Enjoy the warm feeling of being relaxed. Very relaxed and comfortable. I will be quiet for a few minutes then I will help you get ready to leave. Until then, just stay relaxed and comfortable."

Let 3–4 minutes elapse

"Okay. Now it's time to end the relaxation practice session. It is important to do this slowly. With your eyes still shut, listen to how to do this. In a moment I will count to four. On the count of 'one,' move your hands and arms around to wake them up. On the count of 'two,' move your feet and legs around. On the count of 'three,' move your head and neck. On 'four,' open your eyes. Then sit up and move around in your place. All right, I will begin counting now.

" 'One,' move your hands and arms."

Count 5 seconds

" 'Two,' move your feet and legs."

Count 5 seconds

" 'Three,' move your head and neck."

Count 5 seconds

" 'Four,' open your eyes and then sit up. Move around, then stretch and stand up."

MARCH BREEZES BRING ON THE SNEEZES
So says Dr. Q

"Well, how are you today, Marvin?" boomed Dr. Q.

"I'm OK, but I have been wheezing and coughing more recently," I said.

"Let's check it out, my boy." Dr. Q lifted my red and white baseball shirt that said "Menominee Marvels" on it. He listened carefully as I breathed.

"Well, Marvin, you are wheezing now and we don't want that to go on. Let's be detectives and try and discover what's causing you to wheeze."

"What are some of the things that you know trigger your asthma?" Dr. Q said as he took a seat on the chair in the corner.

"Ragweed is one thing, but this is spring and it usually bothers me only in the fall," I said.

"OK, what else?" asked Dr. Q.

"Well, there's feathers. Whenever I go into Aunt Hedy's chicken coop, I get tight real fast." I stopped and thought.

"But I haven't been to see her in several weeks, so it can't be feathers. Now, dust is . . ."

"Whoa—Hold up a minute, Marvin," Dr. Q said interrupting me. "Where else could there be feathers? You'll not make a very good detective, jumping to another suspect so fast. Now think hard, my boy."

I thought very hard, my forehead wrinkling as it does when I really think.

"Well, my sister has a feather pillow. It's name is Goosifer and she won't let anyone else use it. She even takes it with her when she sleeps over at someone's house. But Dr. Q, that's no help," I sighed. "She and Goosifer have spent the past few days in town at a friend's house."

"OK, said Dr. Q "At least we know it probably isn't your sister's pillow, since you said she won't let anyone else use it."

"And we know your brain still works, and maybe you could still make a detective afterall." Dr. Q sat and grinned at me.

"Wait a minute, Dr. Q. I just thought of something else with feathers. Mom has a feather duster she uses on furniture."

"Is it a new feather duster?" Dr. Q asked me.

"No," I answered. "We've had that old thing for ages."

"Then that's probably not it. I doubt if it would make you wheezy all of a sudden, "Dr. Q explained.

"Well, that's all I can think of with feathers in my house," I said. This was getting discouraging.

"Now, now, Marvin, don't get discouraged," Dr. Q said as if he could read my mind. "Maybe it is time to move on to another suspect. You mentioned dust awhile ago."

"Yes, dust makes me get tight, too." I thought about that for a minute. "But it hasn't really been very windy recently. Oh, a little breezy, but that doesn't usually bother me—just when it's really windy and the dust blows a lot."

"Hmm," Dr. Q muttered. "Maybe what we have here is a combination of suspects or triggers. One thing that I didn't ask you about before was your medicine. Have you been taking it like I told you?"

"Yeah," I said quietly, picking at that spot of white paint on my blue jeans that I got from fooling around the new fence.

When I finally looked up, Dr. Q was grinning at me with his lopsided grin. Then he said, "Now Marvin, my boy, I want you to think very hard and remember very well like a good detective would have to. Did you take your pill this morning?"

"Yes, I did," I said proudly. "It's easy to remember in the morning."

"Good," said Dr. Q "Now, did you take your pill last night?"

"Yes, Mom woke me up to take it," I said.

"Good," said Dr. Q again. "Now, did you take your pill at lunch yesterday?" Again I looked down at that paint spot and thought hard.

"I think I took it. But I am not absolutely sure. Sometimes it's hard to remember at school," I said.

"Yes, I imagine it could be," said Dr. Q "You know, Marvin, we all forget things sometimes. It sounds like you sometimes forget to take your medicine at lunch."

"Yes, I do," I said. "I always remember in the morning 'cause I take it with my orange juice at breakfast. But at lunch I just forget, and I usually feel fine at lunch. So I don't really need to take it then anyway." There, it was finally all out.

"Whoa," said Dr. Q "Let's slow down and talk about this." Dr. Q settled back in his chair. "Now, as I understand it, you forget your medicine at lunch sometimes. Right?"

"Yes, sometimes, I do forget."

"And second, you think that you don't need your medicine at lunch because you feel OK then. Is that the picture, Marvin?"

"Yes. For awhile after you first gave me the medicine, I took it all the time like you told me. But I always felt pretty good, so then I just started to forget to remember it at noon sometimes. Sometimes I do remember it too. Usually I remember on Mondays because we have gym then."

"Marvin," Dr. Q asked me, "when did you and your Mom notice that you were getting wheezy again?"

"Awhile ago," I answered. "Oh, maybe 3 weeks ago."

"Hmmm," said Dr. (Detective) Q "That's just about when it started getting breezy around here. 'March breezes bring on the sneezes,' I always say."

"My hunch is that with your missing your noon medicine and the March breeze and the dust, you get wheezy just about every day."

"Yeah, I notice it after I get home from school. It's not bad or anything, just a little wheezy."

"A good detective tests his hunches, Marvin. And that's what I want you to do. Our suspects are wind, dust, and no noon meds. To test our hunch, I want you to take your noon medicine every day without fail, even when you feel OK. Maybe later on you won't need to take as much medicine. But, my boy, that's something we need to talk about together. I hope you never just stop taking your medicine without coming to see me about it first."

"You see, you need to keep the same amount of medicine in your body at all times. If you don't then just a little bit of one trigger or a little bit of a couple of triggers may cause you to be wheezy, like the dust and the springtime breezes."

"So you'll promise to do a good job and test our hunch by taking your medicine every time, everyday. Okay?"

"Okay," I said.

Dr. Quackenbush reached in his desk and pulled out an old coffee can. "Here, Marvin," he said. "Take some of my stickers to put up to help you remember your noon medicine. Maybe you can put one on the inside of your notebook."

The big yellow sticker that he handed me said, "TAKE IT AND TAKE IT ON TIME" in bright blue letters.

I'd seen those stickers before. It would be hard to come to Dr. Q's office and not to have seen them. Why, they were posted everywhere in his waiting room. Besides the yellow and blue ones, there were ones that looked like kids themselves had made. I'd wondered about them before.

Dr. Q explained, "Well, sometimes when it gets busy in here and I am running a little late, I tell my nurse to have the kids who are waiting design their own stickers. Then they leave them with me to brighten up the office walls."

"'TAKE IT AND TAKE IT ON TIME' is a very important part of taking care of your asthma. What that means is when you are prescribed a medicine, you should take it and take it at the time I tell you. Not more than a half hour earlier or later than I say. Even if I prescribe medicine to take when you have attack, or start to get tight, take it when you start to get tight, not after you are already tight."

"But enough of my lecture for today. I'd like to see you in 2 weeks and see if we have really tracked down the correct suspects in this asthma case."

"Okay, Dr. Bush. See you then. And thanks!" I said as I walked out the door holding a fist full of my new TAKE IT AND TAKE IT ON TIME stickers.

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

QUICK **QUIZ**

How much do you remember?

1. Write the names of your asthma medicines (do the best you can with spelling.)

2. What are the three changes that happen in your lungs when you have an asthma attack, or problems breathing?

3. What is Dr. Q's motto about medicine?

4. What are some early warning signs for you?

5. Why is it important to know your early warning signs?

6. Name four things that you should do when you have an asthma attack, or problems breathing.

7. Name some things that are triggers for you.

FINAL EDITION
FOR

DR. Q's NEWS

PRICE

PUBLISHED WHENEVER
I FEEL LIKE IT
IN
MENOMINEE FALLS, WISCONSIN

LESS

TODAY'S NEWS – EARLY SIGNS

Keep your asthma from getting worse;
Try to remember this little verse.

To control an attack
Keep this in mind
Act when you notice
An Early Sign.

ME, M.D.

DOCTOR Q'S QUIZ

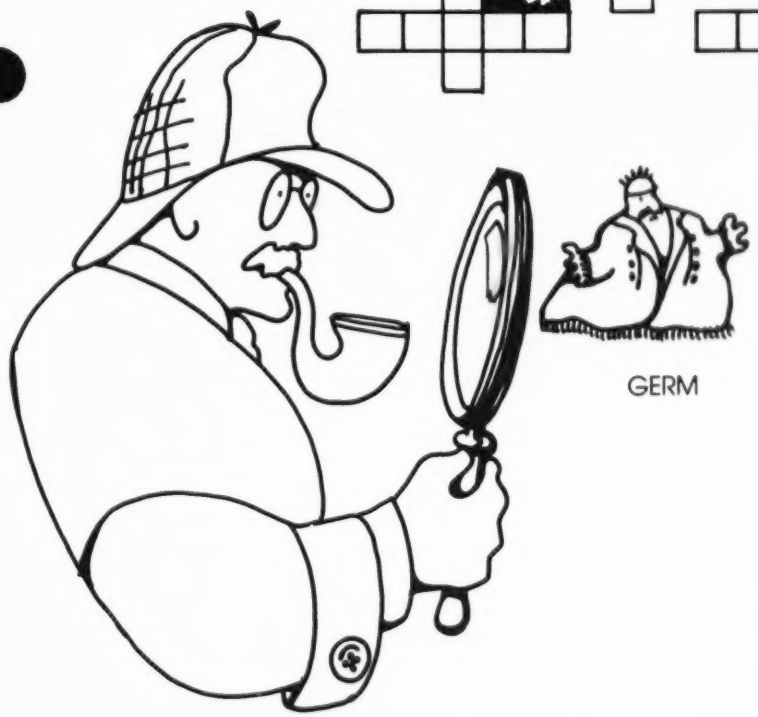
Directions—
Talk with each other, but not all at once,
Then fill in the blanks, so they make sense

In the verse about Early Signs, what does the word "act" mean?

1. R_____ and R_____.
2. D_____.
3. Maybe use M_____

ASTHMA **CROSSWORD**

LOTS OF LIQUIDS



GERM

WORDS USED IN CROSSWORD

ALLERGEN
ASTHMA
ATTACK
BELLY
BRONCHIAL TUBE
EARLY
EDEMA
ME
MEDICINE
MOLD
NEBULIZER
POLLEN
RELAX
REST
SIGN
TRIGGERS
WATER
WHEEZE

CLUES FOR ASTHMA CROSSWORD

ACROSS

1. What you should "TAKE AND TAKE ON TIME."
2. Something you can always drink to help your asthma
3. Large airways in the lungs
4. Coughing may be an early warning_____ of asthma
5. Pump used for spray medicine
6. A lung condition that makes it hard to breathe at times
7. Swelling
8. The part of plants to which many people are allergic

DOWN

1. When you should start to treat an asthma episode/attack
2. The things that make you wheeze or cough from asthma
3. The sound your lungs make sometimes when you have asthma
4. An episode of asthma
5. One thing to do when you notice an early warning sign
6. The type of breathing to do when you have trouble breathing
7. The word for any thing to which you are allergic
8. Letting go of all the tension in your body
9. A thing to which many people are allergic
10. The person responsible for taking care of your asthma

CHILDREN'S SESSION FIVE

TRIGGERS

GOALS

- To introduce the concept of triggers
- To help each child identify his/her triggers
- To convey the idea that triggers can be controlled

RESOURCES

Leader Background Material:
- Asthma Triggers
- Trigger Situations
- Sample Solutions to Trigger Situations
- Annotated Checklist: Antecedent Conditions

Supplies and Equipment:
- Blackboard and chalk or flipchart and marking pen
- Crayons

Handouts:
- Asthma Report Forms
- Triggers Booklets

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome		
Review	Reinforcement of Self-Management Practices	
Triggers	Mini Lecture Discussion Marvin's Motto: "To Keep Your Vigor, Avoid Your Trigger" Activities with Triggers Booklets Reading Discussion Filling in the Blanks	Trigger Situation Cards Coloring Triggers Booklets
Feelings about Asthma	Beefs and Bugs Discussion	

CHILDREN'S SESSION FIVE

TRIGGERS—TEACHING NOTES

Welcome and Review

Did anyone have trouble breathing this week?

What happened? What did you do?

- **Allow responses.**

How many remembered to fill out your forms?

- **Wait for show of hands or verbal response.**

Let's look at them.

- **Spend a brief time looking at each child's form.**

Did any of you try a different way to help your breathing get better?

- **Allow everyone to participate in discussion.**

Did any of you have trouble remembering to fill in your chart this past week? Here are new ones for next week.

- **Hand out more asthma report forms.**

Did any of you try any tricks like we talked about last week to help you remember? What happened?

- **Encourage discussion by everyone.**

Triggers

Triggers are things or activities that make you cough, wheeze, or get tight from asthma.

Explanation

Running and laughing a lot are activities that commonly trigger asthma.

There are four big types of triggers:

1. Allergens (the fancy name for the things to which you are allergic);
2. Colds and infections;
3. Overexercise; and
4. Feelings.

There are also others, such as weather changes.

- **List them on the board.**

Discussion

What are the things or activities that make you wheeze or cough from asthma?

- **Have each child tell what some of his/her triggers are.**
- **List them under the four main types of triggers.**

Why is it important to know what triggers your asthma?

▌**Allow children to answer.**

Jingle

By knowing your triggers, you can avoid or prevent many attacks. Marvin's motto about triggers is, "To keep your vigor, avoid your trigger."

▌**Have class repeat jingle.**

If you know that you will be around something that triggers your asthma, you can take some preventive measures so that you will not have bad breathing problems.

Triggers Booklets

Here's another booklet to add to your notebook.

▌**Pass out trigger booklets.**

Let's look at the trigger pictures for a few minutes. Check the box next to the picture of things that are triggers for you.

How many checked smoke? Feathers? Dogs?

Does everyone have the same triggers checked? Of course not. We can see that triggers are different for different people. Do you have trouble breathing every time you are around something that is a trigger?

▌**Allow each child to answer.**

One of the reasons that asthma is a difficult illness is because it is not always the same.

Sometimes something that will cause breathing problems does not bother you, another time it may make you have a bad attack. Many things may cause this. Some of them are:

1. You may have forgotten your regular medicine;
2. You may have been overtired and rundown;
3. You may have been around several of your triggers at one time; or
4. You may have gotten an especially large dose of one trigger.

▌**Have the children fill out pages 2 and 3 of the triggers booklet.**

▌**Then if time permits, have them color the triggers that apply to them.**

▌**Optional: fill out the final page.**

Beefs and Bugs Discussion

At this point, encourage a general "gripe session." This is the time to reinforce the kids for expressing their feelings about asthma. Be sure to record children's feelings and their ideas of bothersome situations.

Let's talk about how we feel about asthma. What are the most bothersome parts of having asthma? What are your beefs about having asthma? What bugs you about having asthma?

▌**Have each child think about the question and then share with the group.**

Use some of these "gripes" to make up situation cards for next week.

Some of you may feel that it is a drag to always have to take medicine, to have to stop and rest when you're playing hard, etc.

We don't know how to cure asthma, but we do know how to control it and make it somewhat less of a bother.

In these sessions, you are also learning ways to help yourselves.

Final Activities

Situation Cards

Use trigger situations from this session. See How to Use Situation Cards in leader background material from session 4.

Fill in and color Triggers Booklets

Reminders

Well, that's all for today. We learned a lot about triggers today. Let's repeat Marvin's motto about triggers: "To keep your vigor, avoid your trigger."

There's a lot to remember for next week. Try to remember to fill out and bring back your Asthma Report Forms.

Don't forget to bring your notebooks again. We'll have another booklet to add next week.

Remember to practice your belly breathing every day.

If you notice early warning signs and triggers this week, be sure to remember them for us. We'll want to hear about them next week. Use the last page of the Triggers booklet to remind you. You can also ask your family to help you identify your triggers.

ASTHMA TRIGGERS

Identifying Triggers

Triggers are those substances or situations that cause an asthma attack or episode. Theoretically at least, if all of an individual's triggers were eliminated, the person would never have any asthma symptoms and would never know that he/she had asthma. One goal of asthma management is, therefore, to eliminate as many triggers as possible. For this reason, it is important to determine as many triggers as possible.

Allergy testing, detailed medical histories, and a careful examination of environmental influences are ways to discover triggering factors. By careful observation, a family usually can determine most triggers.

It makes sense to spend some time trying to discover the major asthma triggers so that they can be eliminated or at least minimized as much as possible. In some cases, it is possible to totally eliminate the offending factor, such as switching from a feather to a Dacron pillow. In other cases, it may be necessary to take some preventive action that minimizes the effect of the triggers, such as taking a preventive dose of medicine before engaging in various activities or washing thoroughly after riding a horse.

Triggers can be divided into several main categories: allergic triggers, mechanical triggers, emotional triggers, colds and infections, and weather changes. Common allergic triggers include: animal dander, molds, pollens, feathers, and house dust. Irritants may bother everyone some, but they cause real trouble for others. Common irritants include: strong odors, smoke, dust, and pollution. Foods are infrequently asthma triggers. Mechanical triggers involve changes in breathing patterns. These changes occur as the result of exercise, sneezing, coughing, laughing, crying, and choking . Emotional triggers are situations where strong and stressful feelings are experienced.

It may be difficult to pinpoint any one trigger for a particular attack. Often a combination of triggers precipitates an attack. That is one reason that asthma seems so capricious and unpredictable. At one time in a stressful situation, no asthma is experienced. At another time when stress is experienced, the chest tightens and wheezing begins. Some possible explanations are (1) there was another precipitation factor, such as a room full of smoke; (2) the amount of stress was greater; and (3) the body was run down.

There are many other possible explanations. The examples above show that there are no exact reasons for every attack. When looking for patterns of asthma attacks, think about combinations of triggers, and do not expect to be able to find reasons for each and every attack.

If it is so difficult to pinpoint reasons for each asthma attack, why bother? The reason is to gain better control of the asthma. If the child and parents are aware of common triggers and can find ways to minimize their effects, the total impact of asthma can be lessened.

Dealing with Triggers

Stress

Learning to relax at will is a useful technique for people whose asthma is triggered in stressful situations. There are many different methods of doing this. PRACTICING RELAXATION (handout 5) is a resource for understanding one technique;

other techniques are covered in the books on the market that deal with stress and relaxation.

Some people are able to control their stress by imagining a soothing and relaxing scene. Others can take a few minutes and gain control over stress by doing calm and controlled breathing. People who have a past history of particular problems with stressful situations may need professional help to learn progressive relaxation to break old behavior patterns.

Many people today are discovering that scheduling regular physical activity as a part of their daily routine helps control the stress of everyday life. Every child should have regular physical activity every day. Do not rely upon gym classes to provide exercise. Many children do not have gym every day, and often the exercise provided in gym class is minimal and erratic. Try to plan family activities that involve physical exercise so that children can observe parents enjoying physical exercise.

Emotional Situations

If a child's attacks are directly linked to emotional situations, analyze what is going on in the situations. What factors contribute to the situation? In what ways can the situations be dealt with differently? If the problem is recurring and causes disruption for the child and family, consider seeking professional help to learn new ways to cope with emotionally charged situations.

Do not let the possibility of an asthma attack restrict either the child's fun or need for discipline. If the child knows that discipline will be disregarded when an attack is threatened, the child may learn to respond to discipline with an attack. If the child gets asthma each time that he/she gets excited, try to help the child temper the excitement and learn to relax. You cannot keep the child from getting excited; rather, help the child learn his/her own limits, and manage any attacks that do result. If self-management is to become a reality, the child must develop an inner sense of when to tone things down.

Exercise

Exercise itself can be a trigger for asthma. Many children with asthma have some form of exercise-induced asthma. This can lead to a lifestyle without regular physical activity. All children should participate in regular physical activity, starting off at a comfortable level and working progressively toward more difficult levels of strength and endurance. With the proper medications and understanding of one's own abilities, there is no reason why asthma should handicap a person's physical involvement.

Several Olympic athletes have had asthma and have won world class competitions. The key to enjoyment and mastery of physical activities for the child is to gradually learn his/her limits and have good medical advice about medication and general asthma management.

The child must learn his/her limits through experience. There will be episodes of wheezing and tightness during the process. That is part of the learning experience. Parents and teachers need to help the child learn to be capable of taking care of the ensuing episodes. The child will then be well on the way to asthma self-management and feel more confident about new activities.

Swimming is excellent physical exercise for people with asthma.

Any physical activity that a person desires to try should be tried with the normal precautions and provisions for attack management in case it is needed.

Conditions at Night

A problem with nighttime asthma may be related to the bedding material. Use plastic covers for mattress and pillow. Nighttime asthma could be occurring because of medications, so check with the physician about the evening medication schedule. A longer acting form of medicine may be tried. Using two pillows to elevate the head may help, but the back experts caution against this. Check the heating system and remove house plants.

Weather

The effect of cold weather or wind can be minimized by wearing a scarf over the face or nose. Many children protest being covered up with a scarf, but will pull a turtle- or cowl-neck shirt up over their nose and mouth. Use whatever works!

Respiratory Infections and Childhood Diseases

Colds and infections are common triggering factors for young children, especially those who have not yet finished second grade. Some physicians warn parents to expect a rough time for the first years of school. Children that young are coming in contact with many infectious agents for the first time. It will take several years before they build up a resistance to those agents that are present wherever there are groups of people.

Some precautions that can be taken include following good general health practices such as getting plenty of sleep, eating a balanced diet, getting regular physical activity, drinking plenty of fluids, avoiding situations where people may be sick, and promptly taking care of any colds or infections that do occur. Many physicians recommend regular flu shots for people with asthma.

Insufficient Medication in the Blood

When it can be anticipated that a known trigger will be encountered, preventive medication can be taken. Medications raise the threshold for attacks and should prevent asthma from being triggered most of the time. This prevention is ineffective when the medication is not taken, a large dose of an allergen or trigger is encountered, a number of triggers are experienced at one time, or the body's resistance is down.

If triggering factors cannot be identified, check with the physician. He/she may be able to suggest some ways that triggers can be pinpointed or recommend more testing to check possibilities.

If attacks occur repeatedly in spite of knowing triggering factors, consider whether early signs are being acted upon or if the child is waiting until the last minute to treat potential problems. Also, medications may need to be checked. It may be time to alter type or dosage.

Trigger Situations

1. You are over at a friend's house. You and your friend's family are all sitting in the living room watching T.V. Your friend's father starts smoking. It begins to bother you. WHAT SHOULD YOU DO?

2. Your teacher announces that your class is going to the stock show. Last year you went and petted all the animals in the petting section. Later that day you got a bad attack. You have to try and convince your mother that you can go this year, and not get as sick as you did last year. WHAT SHOULD YOU DO?

3. Your best friend asks you to come over and watch the Bronco game with her and her family. You want to go, but then she tells you that her whole family has bad colds. Your asthma is triggered by colds and infections. WHAT SHOULD YOU DO?

4. At school you realize that you are having some early warning signs. It's almost time for gym class and today everyone is to run the 600-yard run for a physical fitness test. WHAT SHOULD YOU DO?

5. You are invited to spend the weekend at a friend's cabin in the mountains. You want to go and say you will. She then tells you that her three dogs are going too. Dogs are a trigger for you. WHAT SHOULD YOU DO?

6. You are staying with your grandmother and she asks you to help her out by mowing the grass. Grass is a trigger for you. WHAT SHOULD YOU DO?

SAMPLE SOLUTIONS TO SITUATION CARD PROBLEMS

Trigger Situations

As in the previous session, these solutions are offered only as suggestions to assist the leader in guiding the discussion and eliciting the children's ideas. Encourage the children to think carefully about each situation. Be sure to reinforce solutions that agree with self-management practices that they have been learning. Try to steer them away from solutions that require major lifestyle disruptions to avoid triggers completely. The key is to encourage practical ways to minimize the effects of triggers. Try to get everyone in the group to contribute their ideas and their reactions to others' ideas. This can be accomplished by questions like, "What do you think about that, Johnny?"

1. You are over at a friend's house. You and your friend's family are all sitting in the living room watching T.V. Your friend's father starts smoking. It begins to bother you. WHAT SHOULD YOU DO?
   A. Tell your friend that you have to leave because smoke triggers your asthma.
2. Your teacher announces that your class is going to the stock show. Last year you went and petted all the animals in the petting section. Later that day you got a bad attack. You have to try and convince your mother that you can go this year, and not get as sick as you did last year. WHAT SHOULD YOU DO?
   A. Tell your mother that you wouldn't pet all the animals. You would also pretreat yourself before going.
3. Your best friend asks you to come over and watch the Bronco game with her and her family. You want to go, but then she tells you that her whole family has bad colds. Your asthma is triggered by colds and infections. WHAT SHOULD YOU DO?
   A. Ask your friend to come over to your house to watch the game. Explain that catching a cold will trigger your asthma. See if there is another time you could get together. You have to decide whether the fun of being with your friend and her family is worth getting sick.
4. At school you realize that you are having some early warning signs. It's almost time for gym class and today everyone is to run the 600-yard run for a physical fitness test. WHAT SHOULD YOU DO?
   A. Talk to your physical education teacher and explain that you are having early warning signs. Ask if you can make up the physical fitness test when you are feeling well.
5. You are invited to spend the weekend at a friend's cabin in the mountains. You want to go and say you will. She then tells you that her three dogs are going too. Dogs are a trigger for you. WHAT SHOULD YOU DO?
   A. Explain to your friend that dogs trigger your asthma. Find out if the dogs will be in the cabin or outside when you go to the mountains. Decide whether you want to go. Be sure to take your meds with you if you decide to go.
6. You are staying with your grandmother and she asks you to help her out by mowing the grass. Grass is a trigger for you. WHAT SHOULD YOU DO?
   A. Explain to your grandmother that grass triggers your asthma. Ask if you could help by doing other chores. You could wear a mask if this is effective for you.

ANNOTATED CHECKLIST: ANTECEDENT CONDITIONS

This checklist is provided as an aid to the group leader conducting the discussion of the topics covered in the parents' session 5. Each item is followed by suggested solutions or sources of background information the teacher can use to answer questions, offer ideas to participants or direct the discussion. Space has been left for the leader to write down key words and reminders to help with the discussion. Feel free to add anything that is useful in responding to questions and concerns or to note helpful solutions offered by participants in the asthma self-management groups. This annotated list is offered to leaders of children's sessions to illustrate types of situations children may encounter.

These items are discussed in greater detail in ASTHMA TRIGGERS section of Leader Background Material. Be sure you read that section before conducting group discussion.

_____Child doesn't avoid his/her asthma triggers.
Discuss consequences for nonavoidance; allow natural consequences.
Talk about asthma and triggers.

_____Child tries to expose him/herself to his/her asthma triggers.
Discuss reasons for wanting to provoke attack.

_____Child doesn't know his/her asthma triggers.
Talk about what you both have observed; point out specific situations when child has problems.
Keep records to help pinpoint triggers.

_____Child refuses to part with family pet.
Discuss consequences.
Suggest pet be outdoors instead of indoors.
Give pet to a friend.

_____Friends and relatives smoke; seem not to believe that smoking is a real problem for someone with asthma.
Firmly refuse to stay in their homes if they persist in the presence of your child.
Limit time of your visit.
Explain why smoking is a problem and ask them to stop.
Have all smoking outside if they visit your home or limit the rooms in which people may smoke.

Child often has attacks when:

_____Emotional (examples: nervous, afraid, excited, frustrated, guilty, angry, worried).
Examine reasons for emotions, how you react.
Relax, problem solve with child.

_____Punished.
Beware; discipline when necessary.

_____Doing things like laughing hard, crying, sneezing, coughing, yelling, etc.
Work toward reasonable control.
Children learn their limits through experience.

_____Exercising or playing hard.
Learn reasonable limits; taking part in normal childhood activities may involve getting sick sometimes.
Do not control for them.

_____Asleep at night.
Use two pillows; cover mattress and pillow with plastic.
Ask doctor about changing meds.
Examine the medication schedule; is it being followed?
Are there plants or animals present in the room?

_____Wind or weather changes occur.
Face mask, scarf, turtleneck may help in cold weather.

_____Infections occur.
Stay healthy; drink lots of liquids, rest, avoid people who are sick, get regular exercise, control stress.

_____Child's triggers mainly determined by guesswork.
Talk about what you both have observed; point out specific situations when child has problems.
Keep records to help pinpoint triggers.

_____Attacks just happen no matter what.
Check theophylline level if child using theophylline.
Discuss attacks with physician.
Be sure meds are being taken as prescribed.
Search for patterns.
Catch attacks early.

_____Other_____

_____Other problems_____

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

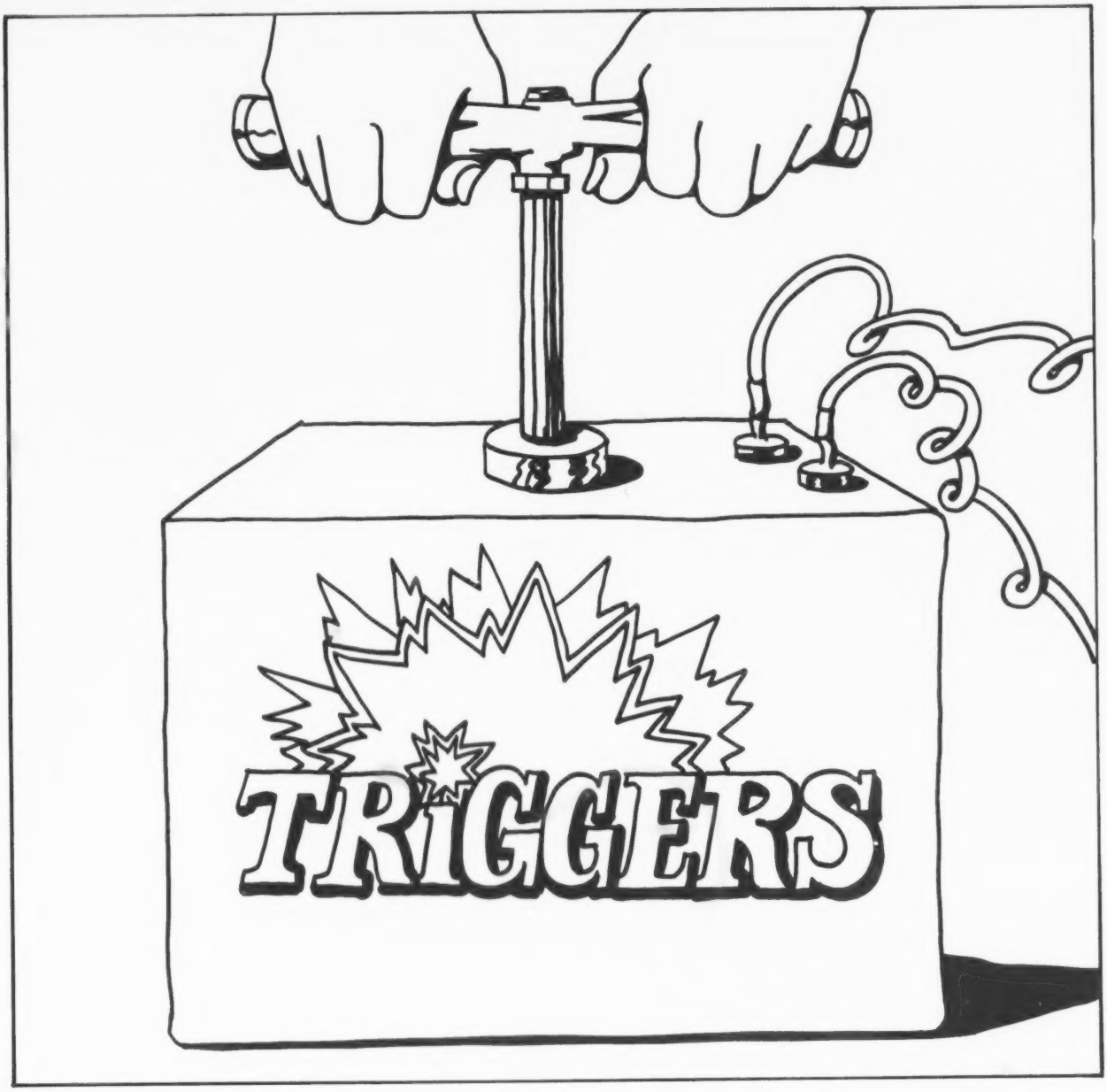
To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

TRIGGERS



Those things that make you wheeze, get tight, or cough from asthma. . . .

TRIGGERS

TRIGGERS are those things that make you wheeze, get tight, or cough from asthma. If you start to wheeze or have an asthma attack whenever you are around a certain thing, that thing is probably a trigger for you.

_____ are those things that make you wheeze, get tight or cough from asthma.

A trigger is a thing that makes you have an_____ _____ when you are around it.

The doctor can sometimes tell you some of the things that are triggers for you. Sometimes your mother or father can help you find out what your triggers are and you probably already know what some of the things are that make you start to wheeze. You can also discover what some of your triggers are by doing some careful detective work.

FOR EXAMPLE: If every time you visit your Aunt Hedy's and go into her chicken house, you start to wheeze, then you may begin to suspect that feathers are one of your triggers. And, if every time you sleep at your friend's house and use her feather pillow, you start to wheeze, that's another clue that feathers may be a trigger for you. And if every time you sleep at a friend's house and bring your own foam rubber pillow, and you DO NOT wheeze, that's even more evidence that feathers are a trigger for you!

Sometimes your_____ or your _____can help you figure out what some of your triggers are.
By doing some careful detective work you can _____what some of your triggers are.

Something that is a trigger for you may not be a trigger for someone else. That's why it is up to YOU to know what your triggers are. When you know what your triggers are, you can try to stay away from them as much as you can. That way you can help yourself not wheeze as much, and maybe keep an attack from happening.

Different _____ are triggers for different people.

Something that triggers your asthma may _____ trigger someone else's asthma.

When you know what triggers your asthma, you can try to _____ _____ from those things.

By staying away from your triggers, you can sometimes keep an _____ from happening.

And sometimes even when you try very hard to take care of yourself and stay away from your triggers, you may get sick anyway. But by knowing your triggers and staying away from them, you can help yourself not have asthma as much.

Sometimes even when you stay away from your _____, you may get sick anyway.

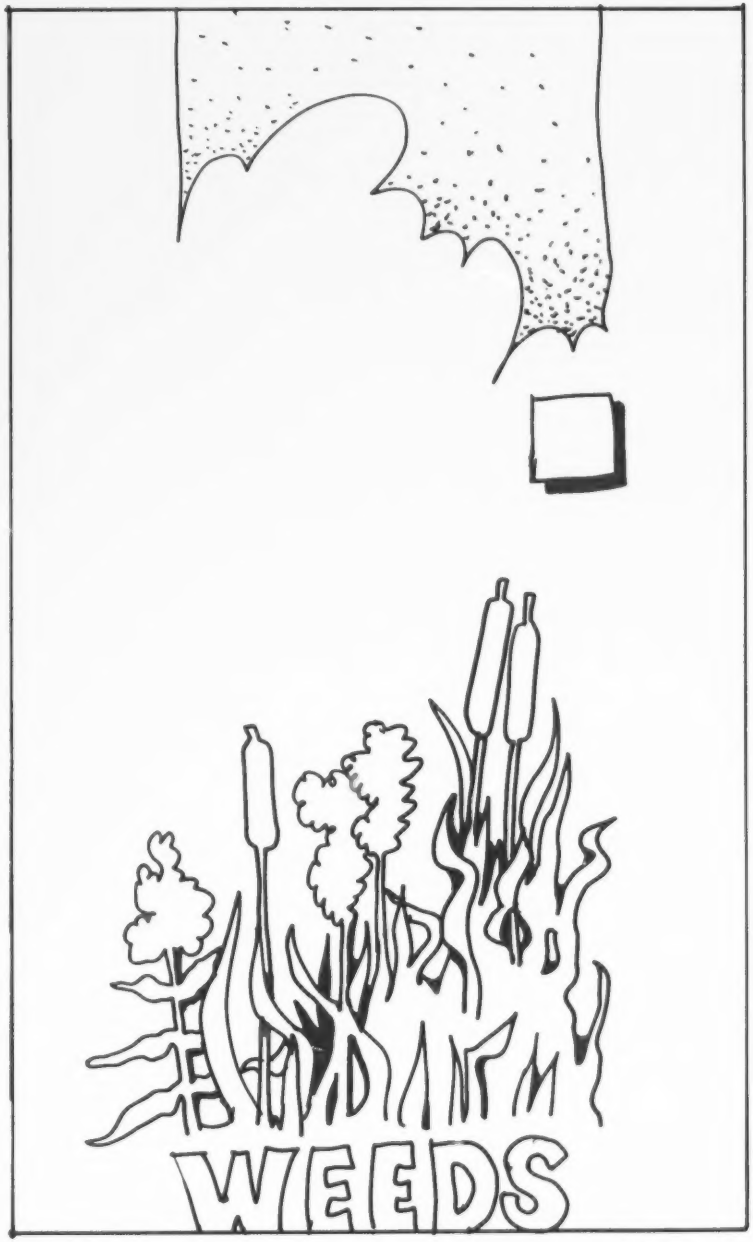
But by knowing what most of your triggers are and trying to stay away from them, you can

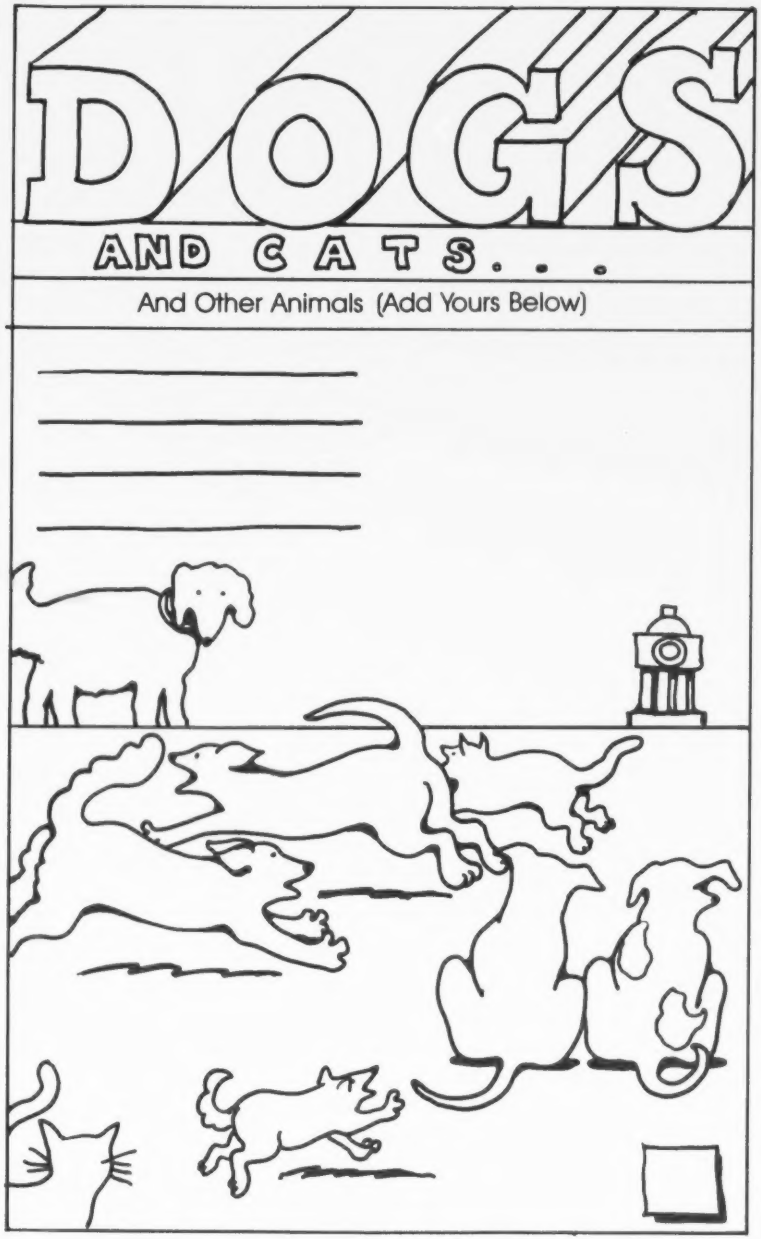
help _____ have fewer attacks.

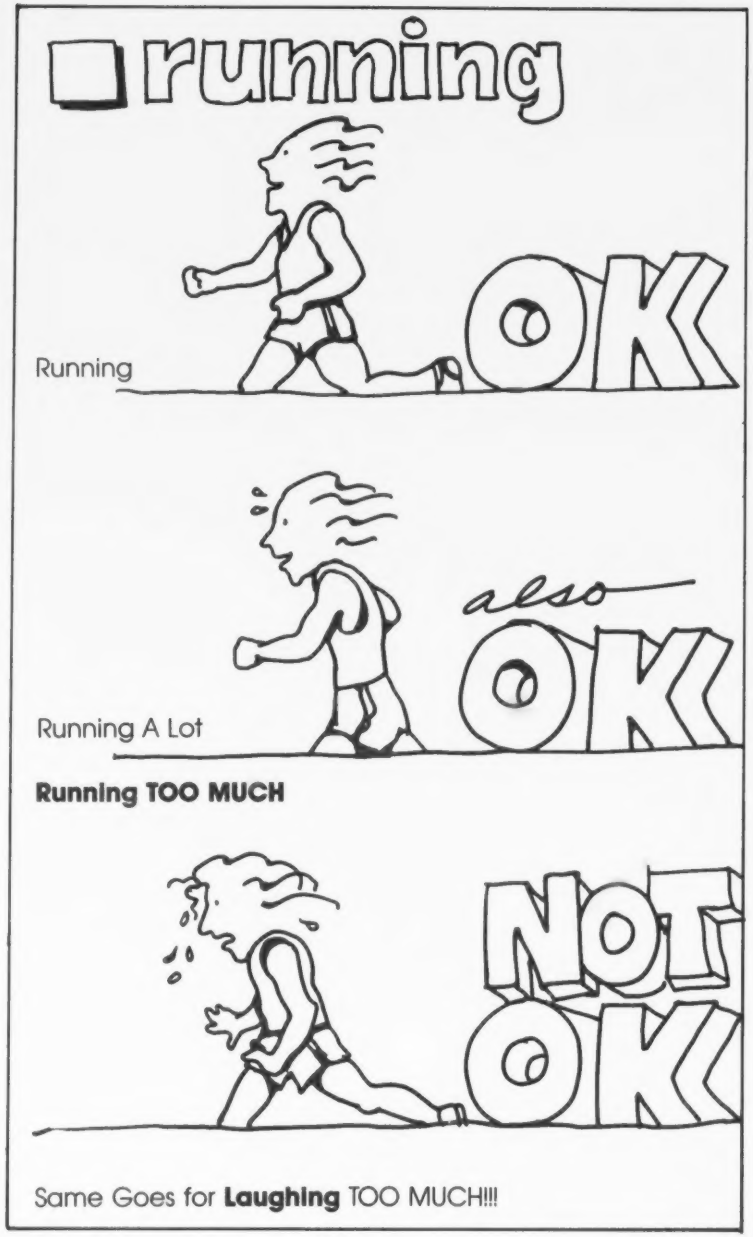
DIRECTIONS: On the next pages are pictures and words describing some things that are triggers for people with asthma. Look carefully at all the words and pictures and decide which ones describe things that are triggers for you. Put a check in the box beside the things that are triggers for YOU. There is space for you to add the names of any things that are triggers for you that are not already listed. You may want to color in all the pictures, but only put a check in the boxes of things that are triggers for YOU.

Remember: By doing some careful detective work, you may be able to discover some more of your triggers.

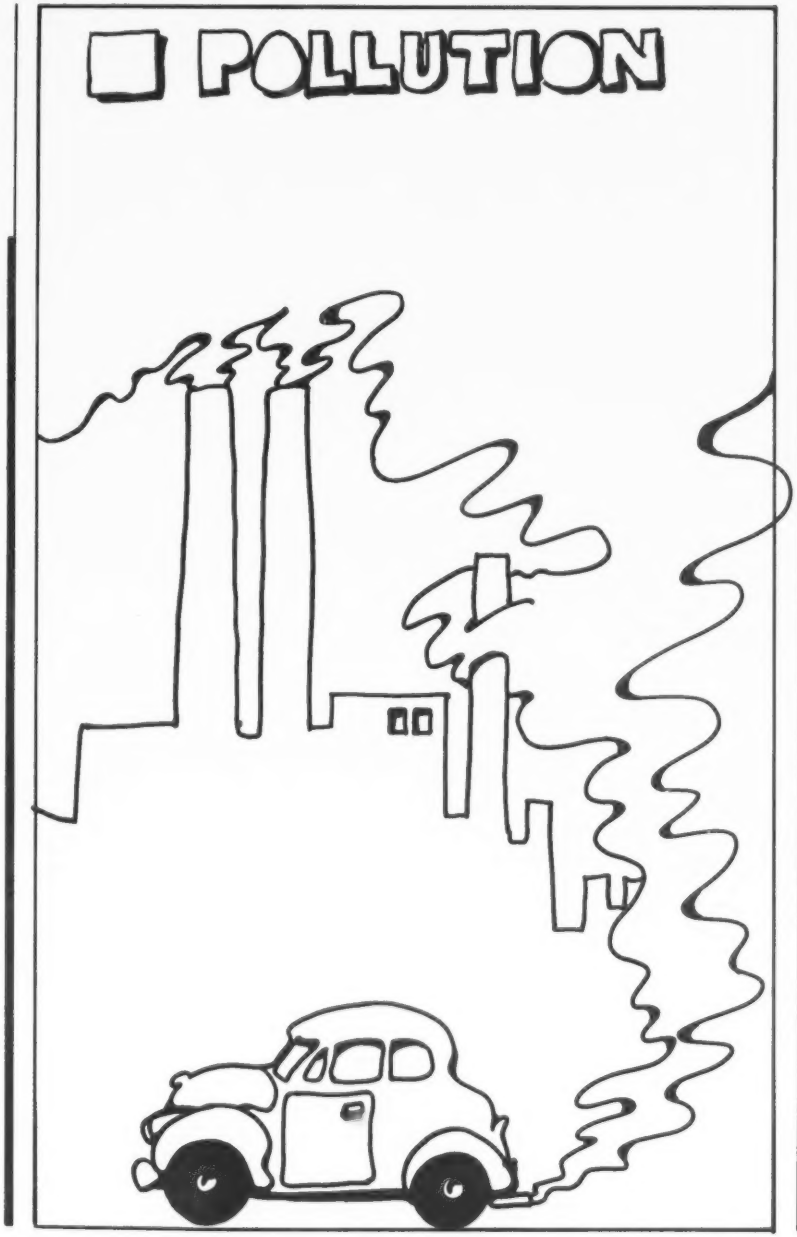
SMOKE
FEATHERS

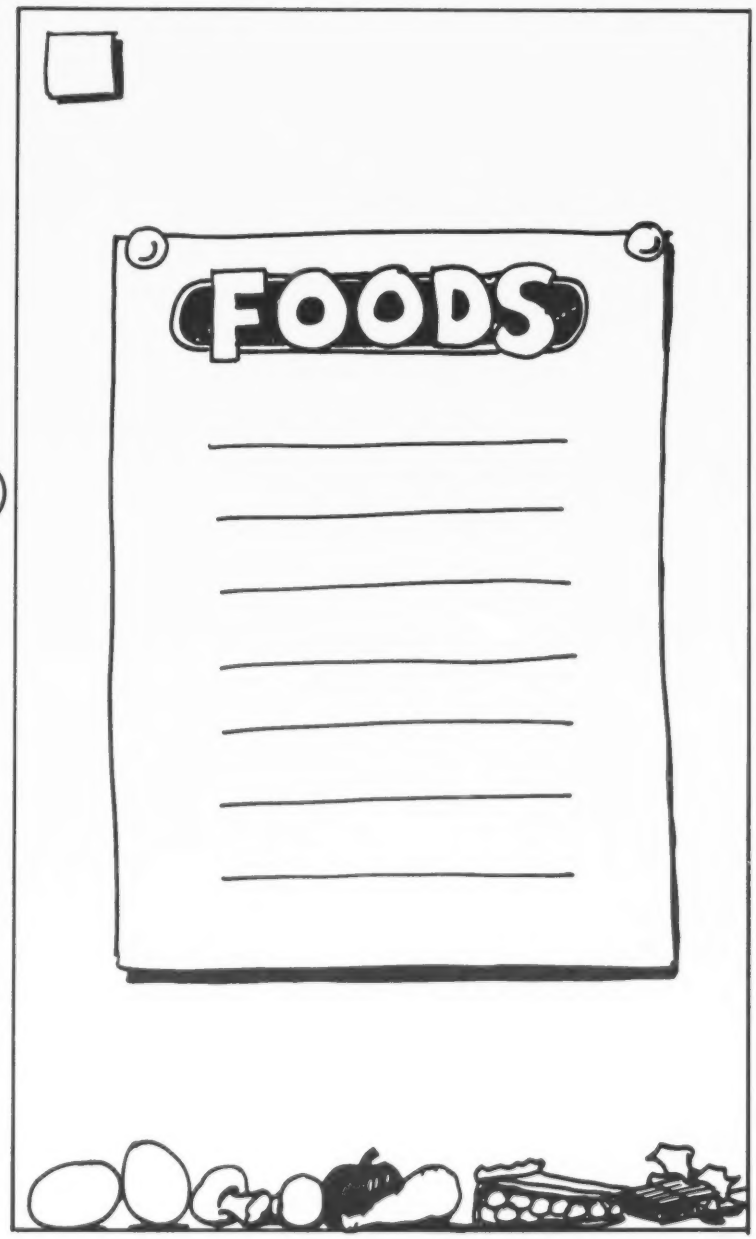

WEEDS


DOGS
AND CATS. . .
And Other Animals (Add Yours Below)

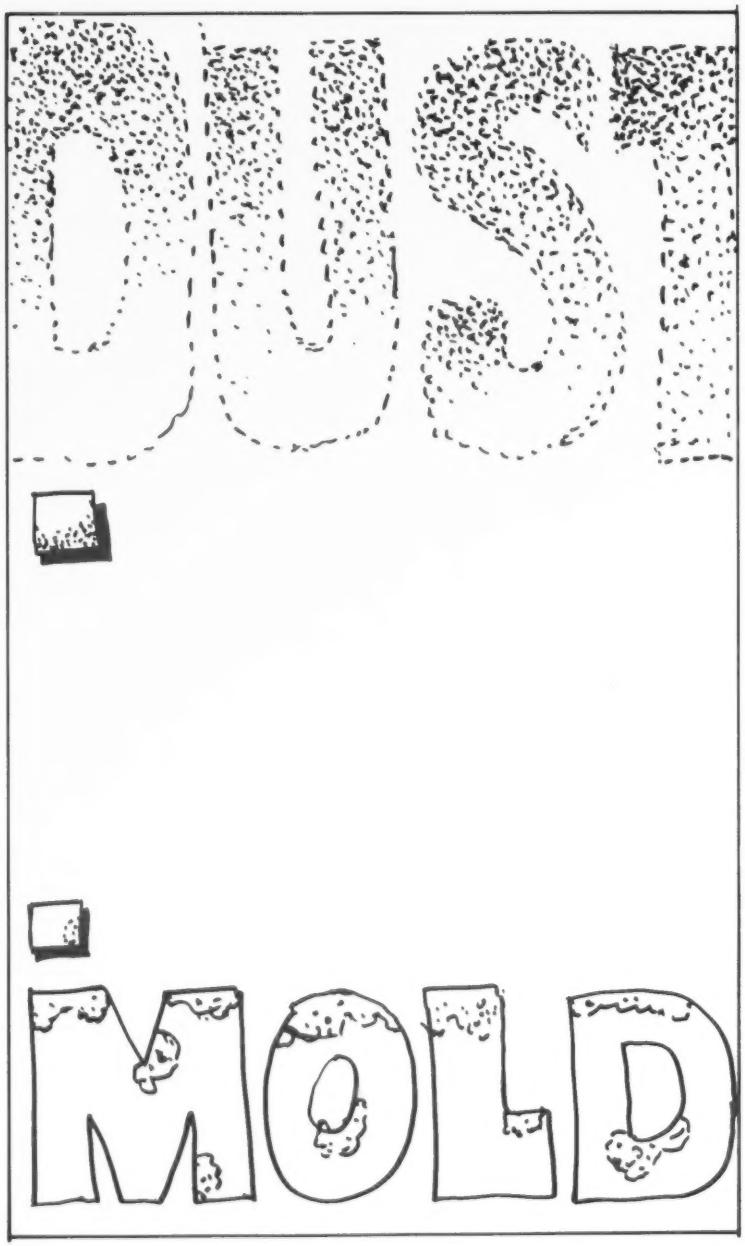

running
Running
OK
Running A Lot
also
OK
Running TOO MUCH
NOT
OK
Same Goes for **Laughing** TOO MUCH!!!

Children's Handout 5-2, p. 6





TREES
GRASS


DUST
MOLD

Children's Handout 5-2, p. 8

EMOTIONS

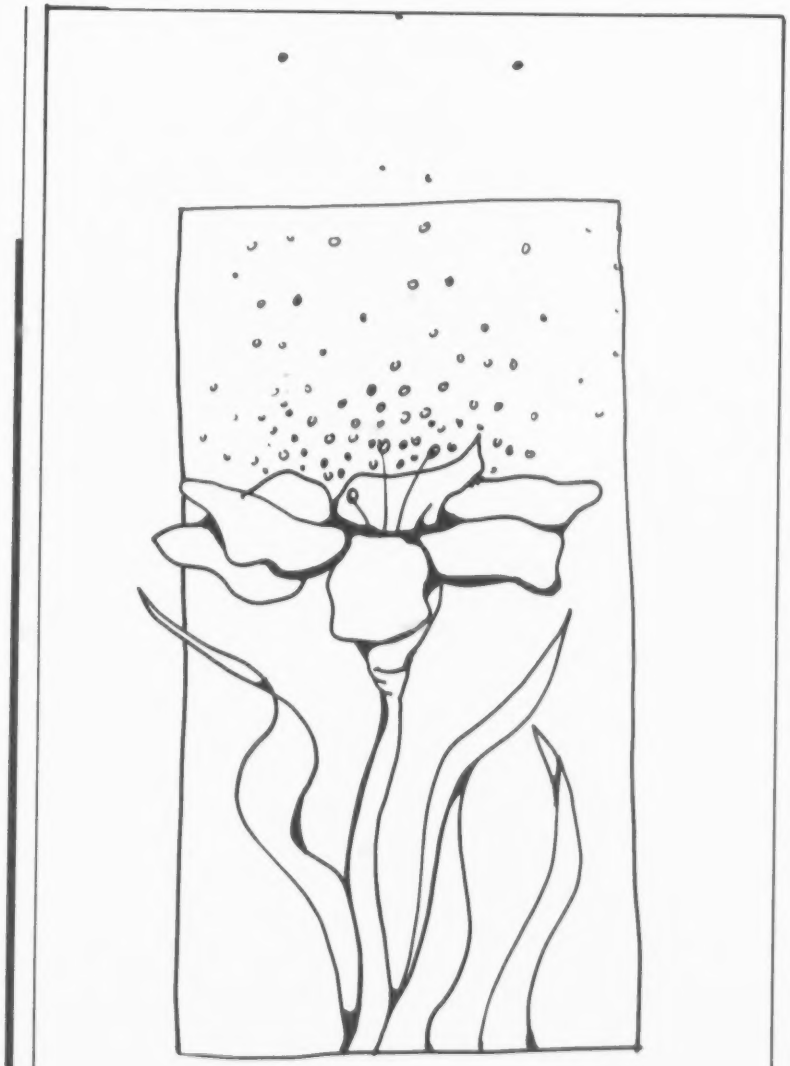
☐ VERY VERY UPSET

☐ VERY VERY SCARED

☐ VERY VERY ANGRY

☐ VERY VERY EXCITED!

☐ COLDS AND INFECTIONS



POLLEN

COLD
(WEATHER)

Children's Handout 5-2, p. 10

ADD YOUR OWN

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

TRIGGER SHEET

SEE HOW MUCH YOU REMEMBER! If you need help, look back to the first pages.

1. Triggers are those _____ that make me wheeze, get tight or cough from asthma.
2. Triggers are _____ for different people.
3. My _____ and my _____ can sometimes help me figure out what my triggers are.
4. It is up to _____ to try and discover what my triggers are.
5. By knowing what my triggers are and _____ from them, I can sometimes keep an attack from happening.
6. Make a list of those things that you know are triggers for you.

_____ _____

_____ _____

_____ _____

_____ _____

CHILDREN'S SESSION SIX

PLANS FOR HELPING YOUR ASTHMA

GOALS

- To problem solve on how to avoid certain triggers
- To convey the idea that by having a plan, you can minimize the effect of asthma

RESOURCES

Leader Background Material:
- Asthma Triggers (see session 5)
- Instructions for Making Marvingrams
- Messages for Marvingrams
- Attack Management
- How to Make Situation Cards from Beefs and Bugs
- The Case of the Mysterious Trigger

Supplies and Equipment:
- Blackboard and chalk or flipchart and marking pens
- Crayons/pencils
- Someone to deliver Marvingrams

Handouts:
- Asthma Report Forms
- Quick Quiz
- Marvingrams
- Pictures of Ruffles, Oscar, Bruno, and Max

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome	Review and Discussion of Asthma Report Forms	
Review	Quick Quiz Review of Concepts in Quick Quiz	
Avoiding Triggers	Discussion, Using Triggers Booklet, on How Triggers Can Be Avoided Discussion of Measures that Reduce But Do Not Eliminate Exposure to Triggers	
Attack Management	Discussion of Meaning of Marvin's Message and Marvingrams	Delivery of Marvingrams
Feelings about Asthma	Discussion of Beefs and Bugs Situation Cards	
Discovering Triggers	Marvin Marvelous Story: The Case of the Mysterious Trigger Reading Discussion	Coloring of Pictures of Ruffles, Oscar, Bruno, Max

CHILDREN'S SESSION SIX

PLANS FOR HELPING YOUR ASTHMA—TEACHING NOTES

Welcome

Did anyone have trouble breathing this week?

What happened? What did you do?

- Allow responses.

How many remembered to fill out your forms?

- Wait for show of hands or verbal response.

Let's look at them.

- Spend a brief time looking at each child's form.

Did any of you try a different way to help your breathing get better?

- Allow everyone to participate in discussion.

Review

Did any of you have trouble remembering to fill in your chart this past week? Here are new ones for next week.

- Hand out more asthma report forms.

Did any of you try any tricks like we talked about last week to help you remember? What happened?

- Encourage discussion by everyone.

After we review some things we've learned so far, we're going to have a short quiz.

Do a quick review of the basic concepts covered in the QUICK QUIZ by using diagrams and handouts from past sessions.

Use quiz sheets to decide what you need to go over and reinforce.

- Pass out the quick quiz sheets.
- Allow time for children to complete them.
- Read answers aloud and have children mark correction.

Avoiding Triggers Discussion

You can make plans to help yourself lessen asthma.

Do you remember Marvin's motto about triggers.

Let's say it together: "To keep your vigor, avoid your trigger."

How can you avoid your triggers?

- Allow everyone to respond.

Let's use our Triggers booklets and talk about ways to avoid triggers.

Go through the Triggers Booklet page by page and discuss how that particular trigger could be avoided.

- Encourage everyone to contribute to discussion.

Who else ever experienced this situation? How did you handle that? What else could you do?

Keep the discussion realistic. Sometimes it is hard to avoid some triggers without being extreme. You are seeking to communicate to the children that they must find a comfortable balance between trigger avoidance and a normal life.

Taking preventive measures can help cut down on the severity of reactions when you choose not to avoid a particular trigger. For example,

- Taking medicine ahead of time when choosing to exercise hard;
- Washing and changing clothes after riding a horse to which one is allergic;
- Wearing a scarf when outside in extreme cold; and
- Washing hands and being careful not to touch your face after playing with the neighbor's dog.

Encourage other ideas.

Marvingrams

Marvingrams are messages in telegram form that are given to each child to help teach asthma attack management. There are different introductory verses designed for the children; some are to be used for siblings attending the group. They must be prepared ahead of time. If you have not used Marvin as a teaching device, these messages can be delivered as Plan-O-Grams.

If possible, have someone knock on the door at a prearranged time with the delivery of the Marvingrams. Have one addressed to each child in the group.

Pass out the Marvingrams with ceremony.

Have each child read his/hers aloud.

Can anyone repeat the main message, Marvin's motto, by heart?

Repeat the message several times together as a group.

Find a sing-song rhythm to learn it by.

Have the children put down their Marvingram and do it together by heart.

Then have each child do it from memory.

Remember to make this a fun, successful experience for each child.

MARVINGRAMS give you a plan of what to do when you notice an early warning sign, or start to have breathing problems.

What do you think each part of the message means?

Let the children explain what they think it means.

THINK—means stop and think, do not panic when you notice warning signs;

DRINK—means to start to drink warm liquids to help thin mucus and relax bronchial muscles;

BE CALM—stay cool, no need to panic, you know what to do to help yourself;

TELL MOM—tell whatever adult is around. 'Mom' here is used to mean adult (generic use of the word), do not wait until you find your own parents;

Ask leading questions and make reinforcing statements throughout the discussion.

MAYBE A MED—consider the possibility of taking medicine if you have some prescribed to be used for attacks; and

MAYBE TO BED—rest, you don't have to go to bed, but do a quiet activity where you won't be using much energy.

Situation Cards Using Beefs and Bugs

Use "gripes" from last week to prepare situation cards. See leader background material for session 4 on How to Use Situation Cards.

Last week we talked about different things that bother us about having asthma. We called them "beefs and bugs." I've put a different one on each of these cards. Remember how we did trigger situations last week? Today we'll use beefs and bugs situations and try to come up with solutions for one another.

Hand out situation cards.

Problem solve "Beefs and Bugs."

It really helps to get other people's ideas about beefs and bugs.

Story: The Case Of The Mysterious Trigger.

Older children may wish to read it to themselves.

Read "The Case of The Mysterious Trigger" to the children or have them take turns reading it.

How do you feel about the choices Marvin made?

What do you think the messages are in this story?

Encourage discussion.

The messages to remember from this story are:

- Triggers can be figured out by good detective work and by testing your hunches.
- Sometimes you can suddenly become sensitive to things that never bothered you before.
- Sometimes you may need to rearrange your life because of asthma.
- If you suspect something is a trigger, avoid it for a few days to see if your asthma improves. Then see if your asthma gets worse when you are once again in contact with the suspected trigger.

Final Activities

Coloring Pictures of Ruffles, Oscar, Bruno, Max.

Reminders

Well, that's all for today. We learned a lot today about how to manage an asthma attack. Don't forget Marvin's Motto. We'll talk about it some more next week.

▌Repeat Marvin's motto from Marvingrams.

There's a lot to remember for next week. Try to remember to fill out and bring back your Asthma Report Forms.

Don't forget to bring your notebooks again.
We'll have some more to put in next week.

Practice your belly breathing every day.

If you notice early warning signs this week or recognize some triggers, be sure to remember them for us. We'll want to hear about them next week. Use the 1st page of the Early Warning signs booklet and ask your family to help you.

MESSAGES FOR MARVINGRAMS

The following jingles should be photocopied and pasted onto the Marvingrams so that each child has a different introductory message to share with the group. Paste each rhyme after the word "message" on the Marvingram.

For Children With Asthma:

1. Here's my asthma cheer,
   It will help your breathing clear.

2. To _____these words, I write,
   Remember them when you feel tight.

3. I'll give you my little letter,
   It will make your asthma better.

4. Here's my asthma guide,
   To help you feel better inside.

5. Listen to this please,
   It will help you stop that wheeze.

6. When you feel sick,
   Use these words, they'll do the trick.

For Siblings Participating in the Group:

1. For you here's a letter,
   It will help your brother get better.

2. Dear _____here's a special little trick,
   For your brother when he's sick.

3. If you remember this verse,
   It will help when _____'s worse.

4. Remember these words for your brother,
   That way you can help one another.

ATTACK MANAGEMENT

The time to treat an asthma attack or episode is when the symptoms first appear. These symptoms may include shortness of breath, coughing, a slightly tight feeling in the chest, etc. By "catching" an attack early and treating it quickly, the chances of having a severe attack are greatly reduced. The later an attack is treated, the more difficult it is to restore normal breathing patterns.

Attack Management Steps

Your child should follow these simple and easy steps used by children at the National Asthma Center when he or she suspects that an asthma attack may be coming:

1. Rest and Relax.
2. Drink Warm Liquid.
3. Use Medicines Prescribed for an Attack.

1. *Rest and Relax.* At the first sign of breathing difficulties, the child should STOP and rest. This means sitting down and resting for at least 10 minutes. Relaxing may be explained as letting go, getting as comfortable as possible and staying that way for a while. Diaphragmatic breathing or "belly breathing" may help children relax by giving them something concrete to do, and thus help them gain control over their asthma. Children who panic or have a hard time settling down may need to practice progressive relaxation before they can relax during an attack or episode. If the child does panic, progressive relaxation is probably best taught by a professional trained in this technique. Progressive relaxation does not take a long time to learn, but must be practiced to be effective. (See section PRACTICING RELAXATION.)

2. *Drink Warm Liquid.* It should be taken slowly rather than all at once. Warm liquid is preferred because it helps the bronchial tubes relax. Very cold liquid may actually hinder getting an attack under control. Getting and drinking something warm is a step that a child can do for him or herself. As soon as the child is old enough, sit down and discuss warm things that he or she likes to drink. Make sure there is always a supply of those things and encourage the child to get them for him- or herself.

3. *Use any Medicines as Prescribed for an Attack.* Different types of medicine are used for attacks. Be sure that you understand how to use whatever medicines your doctor prescribes. Call your doctor if you realize that you need clarification on certain points. (Be sure and read the sections on WHIFFERS, PUFFERS, etc. . . and MEDICATIONS FOR ASTHMA.)

Taking Responsibility for Managing an Attack

Management steps #1 and #2 are things that children can do themselves. It is important that children are taught that resting and drinking liquids are things that they can do on their own to help themselves.

Depending upon the age of the child, set up some agreements in your family as to when the child should let you know about his or her breathing difficulty. With an older child, it may be the child's responsibility to take the first two steps, then let you know if no improvement in breathing has been noted after 15 minutes. If the child is very young, you may instruct the child to let you know as soon as he/she realizes there are breathing problems. Then you can provide such prompts as, "I'm glad that you came and told me that you're having a little trouble breathing.

What can you do to help your breathing get better?" If the child suggests warm water, or resting, give praise for the child's remembering. Then be sure that the child takes his or her own advice. If the child has forgotten what to do, then remind him or her about the steps and help (but do not do it all yourself) the child take those steps.

And what if the preceding steps don't work? That may happen for a variety of reasons. Later, after the attack is under control, analyze why the attack got worse. Was there anything that you or your child could have done differently that may have kept the attack from worsening? Sometimes you may be able to plan new strategies for dealing with attacks in the future. Sometimes there may not be anything that you or your child could have done differently to gain control of the attack.

When to Call the Doctor

Parents are sometimes reluctant to call the doctor because they don't want to be a "bother." If the child seems to be having a serious asthma attack, some important points to remember are:

Breath is life. It is nothing to fool around with. If you have any doubts about the severity of an attack, get medical help first. Then ask if you should have brought the child in or should have waited. In this way, you can learn to better judge those things for yourself in the future.

If the child's lips or fingernails are turning blue or if he or she seems to be breathing shallowly and focusing all attention on breathing, get help. You cannnot always hear wheezing during a serious attack, so don't rely upon that as a sign. If a child is in trouble and nothing is done to relieve bronchoconstriction, or nothing relieves it, the child will go into *status asthmaticus.* This is a serious attack where conventional asthma treatments do not help. It requires specialized care and attention.

If in doubt, call. Don't wait until the last minute to call. A phone call to your doctor costs next to nothing and could prevent a great deal of worry.

Asthma medications take a varying amount of time to work depending upon the specific kind. Ask your doctor to give you some guidelines about the particular medication that your child is taking. How soon after your child takes the medication should you begin to see it take effect? If it doesn't seem to be taking effect, how long before you can give more?

HOW TO MAKE SITUATION CARDS FROM BEEFS AND BUGS

Using notes from the "Beefs and Bugs" discussion from session 5, make situation cards.

Hand them out to the children.

Conduct discussion similar to that in session 4.

"Well, hello, Marvin, my boy," Dr. Q boomed out when I went into the office. "How are you today?"

"Well, I'm okay, Dr. Q. But I've been wheezing a lot even though I am remembering to take my medicine and to take it on time. Taking it doesn't seem to help much. So we came back in."

"Alright, Marvin," said Dr. Q after he examined me. "Let's try to figure out what is going on. Something seems to be triggering your asthma a lot."

I explained that I got worse at home, and was better at school, but it was hard to know for sure. And I couldn't figure out why that would be true.

"What we've got here is a mystery, Marvin," Dr. Q told me. "And I think that you can solve it. I want you to try to discover what it is that is making you tired and wheezy. The next time you come in we'll do some more tests for discovering your triggers, but in the meantime, by observing carefully, you may be able to discover what the mysterious trigger is by yourself."

All the way home I thought about how to discover my mysterious trigger. I'd have to have a plan and have to carry it out scientifically. Maybe my Dad could help me with plans. He was good at that sort of thing.

When I got home, I took Ruffles and went down to Coffee Creek. Coffee Creek was my secret hideout where I went to think or to be myself.

I sat on the old log that stuck out of the water and just looked around. There sat Max, the mudturtle, and Bruno, the bullfrog, sunning themselves.

"Well, how are you doing, Bruno?" I asked the big old frog.

"Brupp, brupp," he answered.

"Glad to hear it. And hope it stays that way too." I like talking to my friends at Coffee Creek.

"Hi Max. How's the mud today?" Of course, Max never answered my questions, but he seemed to know that Ruffles and I were friends because he never slid off into the water when we came around.

"Now if only we'd see Oscar, we'd have all the Coffee Creek Critters." In hopes of seeing Oscar, the Oscar fish, I stood over the creek on a willow branch and looked down. The water was clear and I could see the mossy rocks on the bottom and the darting guppies that played in and out of their hiding places.

"Marvin," came the voice from the house. "It's time for chores," Marvina called.

"Guess we'll have to wait for the next time to see Oscar. I've got the table to set for dinner, and boy, am I hungry tonight."

That night after dinner I went to the back door and called for Ruffles. "Ruffles, here boy."

I stood at the back door waiting for Ruffles to come bounding in. Ruffles stayed outside every day, sleeping in the sun or adventuring in the hills. But every night when I called him, he came running and spent the night curled up on the foot of my bed.

"Ruffles, come here boy," I called again. "Come here boy. Time to come in." I waited a few minutes and then whistled our special whistle—long and low. That usually brought Ruffles running.

This time, something was different. No Ruffles. Usually he was waiting right beside the back door. And it almost never took a second call. I was starting to worry.

"Ruffles, here Ruffles," I called again. Then Marvina came and stood beside me.

"What's the matter? Isn't Ruffles here?" Marvina asked.

"No, he's not," I said rather crossly. "Do you think that I'd be here calling, if he were here?"

Marvina just looked at me in surprise. Usually we got along real well, except when we played cards. I was getting really worried. This had never happened before.

Again, I whistled and called. Nothing, no dog came running. Just the dark, still night.

"Keeping the door open is causing quite a draft," Mom said as she came out of the living room. "What's this all about anyway?" she asked.

"Oh, Mom. It's nothing, it's just that Ruffles isn't here. He hasn't come to my call," I said, my voice trembling just a little.

"Oh. Well, let's all put on our coats and walk out by the barn and call," she said. "I noticed that he wasn't around much today. And I've seen him coming from down the road by the Johnson's quite a few times recently."

By that time, Dad had joined us too. We all got our coats and walked outside together. For the next half hour, we all called and whistled, walking all around the farm. We each turned in different directions so that our voices would carry in every direction.

"I hate to say it, Marvin. But it's time for bed, and if Ruffles hasn't come by now, he's probably too far away to hear our voices," my father said. "He'll probably come in before your mother and I go to bed. We'll check for you. Why tomorrow morning, he'll probably be curled up on the foot of your bed just like he always is."

Dad was trying to sound cheerful, but we all knew he was *trying*. I felt awful. Ruffles had NEVER disappeared like this before. Ever since he was a puppy, he had spent every night curled up on the foot of my bed.

We were all very, very quiet as we walked back to the house. I hung up my coat in the hall and went to bed. I didn't feel like saying anything to anyone. There was just this big empty, hollow feeling inside me.

For a long time I lay in bed looking out at the stars. I had never felt so sad before. Where was Ruffles? Was he lost? Alone out there? Hurt? I heard Mom and Dad calling him several times before I finally fell asleep.

The next morning I woke up feeling strange. There was something different, something strange. Oh, yes. Ruffles was gone. There was no dog at the foot of the bed. Not even a warm spot where Ruffles had been curled up during the night.

That day school passed slowly. Oh, there were times when I'd forget that Ruffles was missing, but they didn't last for long.

In gym we played a new game with a gigantic ball and I was the goal keeper. It was so much fun that I forgot about Ruffles while I was playing. But I remembered when we went back to class.

In the afternoon we went outside for science. We all walked down to the park and then took a hike up the hillside to look for flowers. It was good to be able to be outside instead of being cooped up inside the school, but being outside reminded me that Ruffles was missing.

After school, Dan and I walked to the ball field together. "You've been awfully quiet today, Marvin. Is something wrong? Did I do something to make you mad?"

"No," I said. "It's just that Ruffles is gone, Dan. He never came when I called him in last night."

Dan just said, "Gee, Marvin, I'm sorry Marvin." We walked the rest of the way to the ball field without talking.

Once at the field, practice began immediately. I played harder than I'd played in a long time. I threw long, sure shots, and batted some balls harder than I ever had before. It felt good to play hard. Mom who'd come to pick me up was surprised to see how fast I was running. Even Mr. Jones my coach said, "Boy, Marvin. You are doing super. Keep it up and you'll be the star of the Menominee Marvels."

When the game was over, I walked over to the car. I was tired, but it was a good tired.

"You really played well, Marvin," my Mom said. "I don't think I've ever seen you run so fast. That's great!"

"Thanks, Mom. I did play a good game. I hardly got tired at all. Seems like I had extra energy today."

On the way home, I thought about that. It did seem like I had extra energy. I played hard in gym and had felt OK, and had gone on the nature walk in science and felt OK. I'd even played a real good baseball game and felt OK. What did this have to do with the mysterious trigger? What had been different about today?

I thought hard. There was an idea floating around in my head that I just didn't want to think about too much.

I was still thinking about it when Mom suddenly yelled, "Marvin, LOOK!" I looked up as we passed the house where the new people had just moved in. THERE WAS RUFFLES!!!

Before Mom had stopped the car, I was running up the land. Ruffles came running full speed ahead right into me. We both jumped all over each other. All that I could say was "Ruffles, Oh, Ruffles."

As Mom walked up the lane, she said, "Why, did you ever? Would you just look at that?"

Coming around the corner was another Ruffles! And a boy around my age was right behind him. "Hi," he said. "Is this your dog?" he asked, pointing at Ruffles. "He's been hanging around here since yesterday evening. He seems to like my dog Raffles."

Mom and I just stared at him with our mouths open. Then we looked at the dogs, who stood side by side wagging their tails. Finally Mom said, "You're kidding, you've just got to be kidding."

The other boy looking puzzled and somewhat annoyed. "What do you mean?" I said, "Well, my dog's name is Ruffles, and they do look alike. It is just too unbelievable. Ruffles and Raffles?" We all burst out laughing.

On the way home Ruffles lay on the front seat with his head on my lap, I was so happy to have him back.

Later that night as I crawled into bed, I started wheezing again. But at least Ruffles was back, I'd probably feel better in the morning. Maybe it was from all the excitement and running around so much.

But the next morning, I woke up wheezing. Slowly I got out of bed and walked into the kitchen.

"Good morning, Marvin," Mom said. She looked at me closely. "Marvin, are you OK? You don't look too good."

"I'm a little wheezy. But I feel OK." I thought for a minute and then said, "Mom, do you think that I could be allergic to Ruffles?"

She just looked at me. "Why I never thought of that, Marvin. Ruffles is one of the family and it never bothered you before. But I guess that is possible. We'd better ask Dr. Q about it."

Next week I did ask. "Could Ruffles be my mysterious trigger, Dr. Q?" I explained how the wheezing and tiredness seemed to go away during the time when Ruffles was away. And how I started wheezing again when Ruffles came back.

"Well, it sounds like you were a good detective, Marvin. We'll do some tests, but it sounds like you've already figured that one out. Sometimes we do become sensitive to something that hasn't bothered us in the past."

I explained how I had played detective and experimented. When I stayed away from Ruffles, or when he stayed away from the farm, I did feel better.

It was true. Recently Ruffles had been gone a lot too. Since last week there were four times that he hadn't spent the night curled up at the foot of my bed. Each time he was missing, we had called and found that he was at the new neighbors. Ruffles had fallen in love with Raffles and seemed to spend most of his time there.

It was hard at first. I felt very sad. It was a good thing that baseball season had started. That meant that I spent more time practicing and more time in town at the ball field. And I was playing really well. We had a family conference and decided to ask the new family if they couldn't keep Ruffles for us. He was already living there, and they seem happy to have him.

We did win the trophy, too. And during my spare time at home, I spent time down at Coffee Creek with Max, and Bruno and Oscar. No, they weren't the same thing as Ruffles, but they were pretty nice anyway.

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

QUICK **QUIZ**

How much do you remember?

1. Write the names of your asthma medicines (Do the best you can with spelling.)

2. What are the three changes that happen in your lungs when you have an asthma attack, or problems breathing?

3. What is Dr. Q's motto about medicine?

4. What are some early warning signs for you?

5. Why is it important to know your early warning signs?

6. Name four things that you should do when you have an asthma attack, or problems breathing.

7. Name some things that are triggers for you.

MARVIN **GRAM**

DATE: _____

FROM: MARVIN MARVELOUS, MENOMINEE FALLS, WISCONSIN

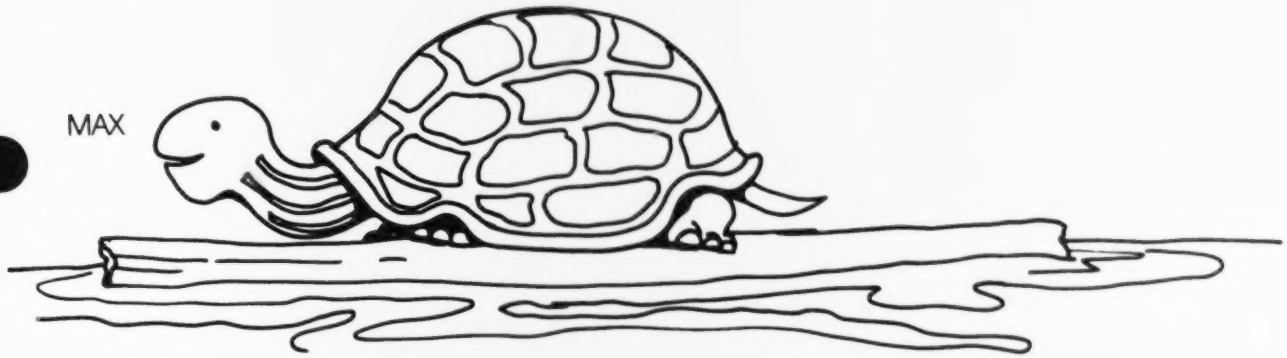
MESSAGE:

MARVIN'S MOTTO:

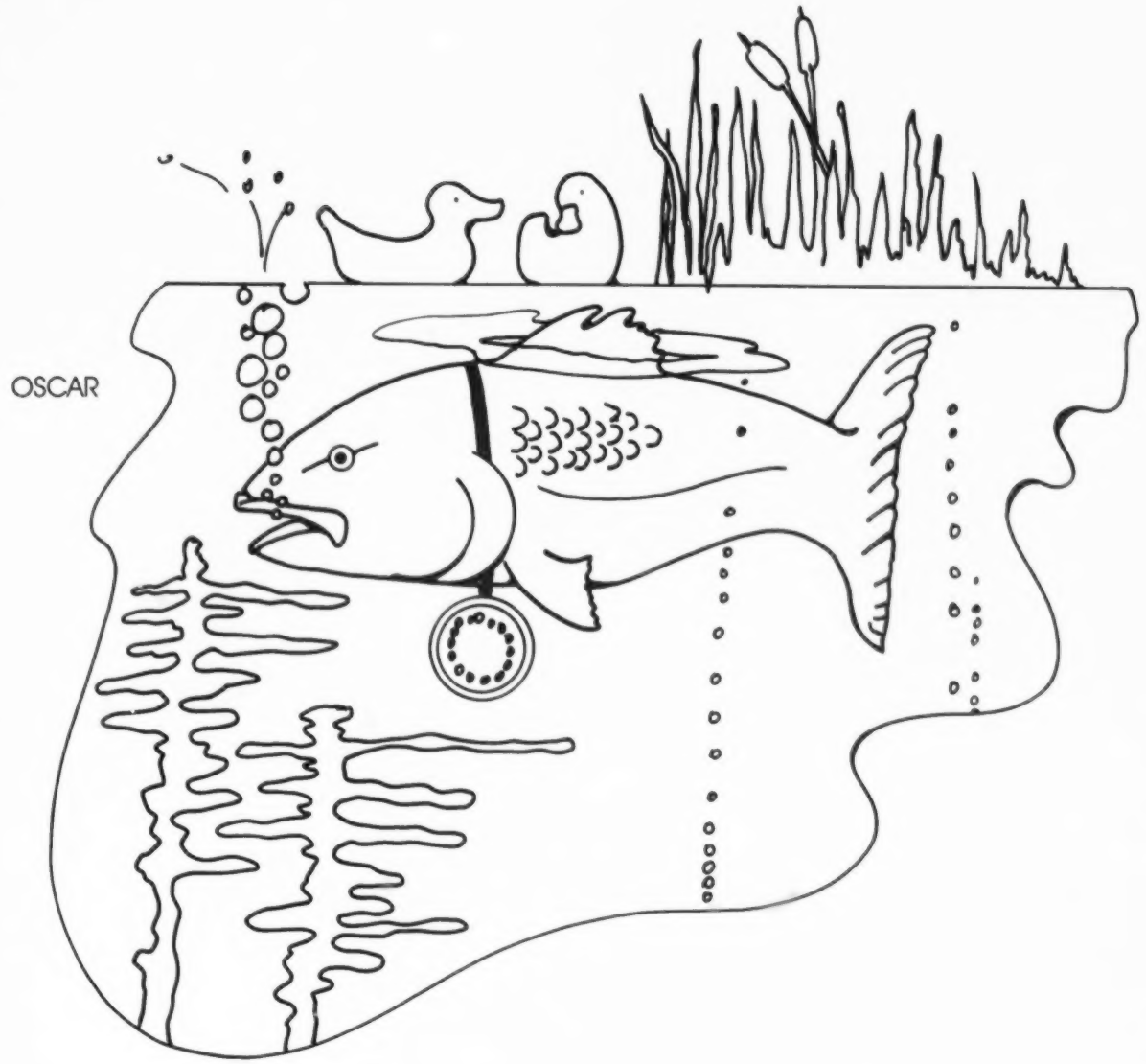
Think, drink.
Be calm, tell Mom.
Maybe a med.
Maybe to bed.

RUFFLES

MAX



BRUNO


OSCAR

CHILDREN'S SESSION SEVEN

EMERGENCY SITUATIONS

GOALS

- To help each child gain confidence that he/she can handle an emergency
- To discuss the "scary" parts of asthma

RESOURCES

Leader Background Material:
- Emergency Situations
- Solutions for Emergency Situations
- Emergency Sheets
- Attack Management (see session 6)
- The Marvin Marvelous Game

Supplies and Equipment:
- Blackboard and chalk or flipchart and markers
- Crayons and pencils
- Marvin Marvelous Game
  - Game board
  - Pink cards
  - Yellow cards
  - Two dice and eight markers (colored buttons OK)
  - Glasses for Dr. Q
  - Dr. Q's answerbook (Dr. Q's Book of Tricks)

Handouts:
- Asthma Report Forms
- Dr. Q's News
- Emergency Sheet
- Aware, Beware

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome	Discussion Reinforcement of Good Management Practices	
Review	Marvin's Message	
Emergency Situations	Discussion Situation Cards	Emergency Sheet
Sharing Scary Feelings	Discussion	
Taking Care of Asthma and Staying Healthy	Discussion of Early Treatment	Dr. Q's News
Review	Marvin Marvelous Game	Marvin Marvelous Game Color Pictures in Dr. Q's News Take-A-Step Game

CHILDREN'S SESSION SEVEN

EMERGENCY SITUATIONS—TEACHING NOTES

Welcome and Review

Did anyone have trouble breathing this week?

What happened? What did you do?

- Allow responses.

How many remembered to fill out your forms?

- Wait for show of hands or verbal response.

Let's look at them.

- Spend a brief time looking at each child's form.

Did any of you try a different way to help your breathing get better?

- Allow everyone to participate in discussion.

Did any of you have trouble remembering to fill in your chart this past week? Here are new ones for next week.

- Hand out more asthma report forms.

Did any of you try any tricks like we talked about last week to help you remember? What happened?

- Encourage discussion by everyone.

How many used belly breathing this week during a time when you had breathing problems? What else did you do for your breathing problems this week?

- Reinforce for good management practices.

Okay, now's the time. How many think they can say Marvin's motto without looking at their MARVINGRAMS? Who wants to try first?

- Have each child say it by memory before you move on.

Why do you think I want you to learn it by heart?

- Encourage responses.

That's right. Knowing his motto, "Think, drink; be calm, tell Mom; maybe a med, maybe to bed," can help you avoid a bad attack. This rhyme tells you what to do.

Discussion: Emergency Situations

Today we're going to talk about what to do in an unusual, or emergency, situation. We've talked about how to take care of asthma, and you all know what to do to take care of your asthma yourselves. You've done a good job with learning a lot of new things. What do you think an emergency situation is?

- Allow responses from each child.

Can you think of an unusual or emergency situation where you would have to do something all by yourself, without much help from your family?

▌Allow the children to come up with some ideas of emergency situations.

Emergency Phone Number

Find out what number should be called in your area to report an emergency and obtain help.

Be sure the children all know what the number is and what kind of information they should be able to give to a dispatcher: their address, the nature of the emergency, what kind of help is needed.

The Emergency Sheet can be used as an optional handout or worksheet to help children focus on things to do during an asthma emergency. These forms were completed by parents in session 6.

Have any of you ever been in an emergency situation? Have any of you ever called the emergency phone number? What happened?

▌Allow responses.

What can you do if you tell an adult that you need help with your asthma and they panic or tell you they don't know what to do?

▌Allow responses.

You can tell them what they need to do: call your parents, get your medicine, call the doctor, go to the doctor, help you to sit down and rest, get warm water to drink, etc.

Situation Cards

Use emergency situations in the leader background material for this discussion. See How to Use Situation Cards in leader background material of session 4.

Discussion: Sharing Scary Feelings

Have any of you ever had to go to the hospital because of asthma? What was it like?

▌Allow time for responses.

Have any of you ever had to rush to the doctor's because of asthma or any other emergency? What was it like? How did you feel?

▌Allow time for discussion.

It's normal to feel scared when you can't breathe. It is a scary feeling. What sorts of things help you get over feeling scared, or at least not feel as scared?

▌Allow time for responses.

▌Let children share ways of coping.

Sometimes it helps to tell other people when we are scared. They can help us become less afraid. Sometimes just by saying we're scared helps us be less scared. Remember the song about 'whistling a happy tune' to help yourself be less afraid. It might be hard to whistle, but try to think of, or do, something to take your mind off being afraid. It works!

Discussion: Early Treatment

Early treatment of asthma symptoms is the best way to prevent an attack from getting bad.

Who remembers Marvin's motto about how to keep an attack from getting bad?

▮ Allow time for response.

That's right: Think, drink; Be calm, tell Mom; Maybe a med, maybe to bed.

Let's talk about other things you can do.

▮ Write the positive things that can be done to control an attack on the board.

▮ Some examples are:

Sit or lay down with your back propped up, head higher than your feet.

Let someone older than you know that you are having breathing trouble.

Do a quiet activity, like playing a board game or reading, that will take your mind off your breathing trouble.

Drink warm liquid slowly.

Do relaxation and breathing exercises, concentrating on breathing out longer than you breathe in. Count 1, 2, as you breathe in; 3, 4, 5, and 6 as you breathe out through pursed lips.

Take medicine as prescribed. Remember not to use too much; it could make you even sicker.

Remember that it will probably take 15 to 30 minutes to feel better if you do all these things. Set an alarm for 30 minutes so you won't have to think about time all the time. If you are not better when the alarm rings, call your doctor.

If you don't get better, get help at the doctor's or hospital. Don't put off getting help; it will only be harder to get the attack under control the longer you wait.

Activity: Dr. Q's News

Here's another edition of Dr. Q's News. Let's fill in the blanks.

▮ Hand out Dr. Q's News.

▮ Allow class time to complete.

Final Activities

Marvin Marvelous Game

See instructions on how to play the game and how to prepare the game board in leader background material.

Coloring Pictures

Play the Take-A-Step Game

Use questions based on all information presented so far.

Reminders

Don't forget Marvin's motto. We'll talk about it some more next week.

Well, that's all for today. We learned a lot about emergencies. There's a lot to remember for next week. Try to remember to fill out and bring back your Asthma Report Forms.

Don't forget to bring your notebooks again. We'll want to review them next week.

Practice your belly breathing every day.

If you notice early warning signs or recognize triggers this week be sure to remember them for us. We'll want to hear about them next week.

I hope you don't have an emergency this week, but if you do, remember what we talked about today. You'll know exactly what to do.

Bye-bye. See you next week!

EMERGENCY SITUATIONS

1. You are downtown shopping with some friends from school. You start to get tight and realize that you don't have your medicine with you. WHAT SHOULD YOU DO?

2. You are camping with some relatives while your parents are on vacation. You get tight and reach for your medicine in your pack. It isn't there. WHAT SHOULD YOU DO?

3. You are babysitting for a neighbor who has a small baby. The baby is asleep and the neighbor is expected home in an hour. You start getting tight. WHAT SHOULD YOU DO?

4. You are riding your bike in a bike-a-thon for Jerry Lewis and MS. You are at a 5-mile checkpoint with 5 more miles to go. You are very tired and start to wheeze. WHAT SHOULD YOU DO?

5. You are home alone for the first time while your parents are at the movies. You start coughing and get scared that you are about to have an attack. WHAT SHOULD YOU DO?

6. It's close to the end of the school year and you have a half day. You forget to tell your Mom it was a half day and the busses aren't running. It is only two miles to your house, so you decide to walk. Half way there, you begin to get tired and start feeling sick. WHAT SHOULD YOU DO?

7. You have done everything that you know you are supposed to do to take care of an asthma attack, but you still feel bad. Your parents are out of town for the weekend, and your older cousin is staying with you. She doesn't know what to do to help you. WHAT SHOULD YOU DO?

SAMPLE SOLUTIONS TO EMERGENCY SITUATIONS

Once again, these solutions are merely suggestions to assist the leader in guiding the discussion. Encourage the children to think carefully about each situation and reinforce solutions that agree with the asthma management practices they have been learning. Try to get everyone in the group to contribute, even if some of the ideas presented are impractical or incorrect.

1. You are downtown shopping with some friends from school. You start to get tight and realize that you don't have your medicine with you. WHAT SHOULD YOU DO?
   A. Sit down, rest, relax and drink some warm fluids. If you don't get better start home. If you need to go to the doctor's get there. DON'T PANIC.
2. You are camping with some relatives while your parents are on vacation. You get tight and reach for your medicine in your pack. It isn't there. WHAT SHOULD YOU DO?
   A. Drink coffee and warm liquids. If it persists, you need to get back and get your medicine. If you need to, stop by a roadside phone and call for help. Remember your relaxation and DON'T PANIC.
3. You are babysitting for a neighbor who has a small baby. The baby is asleep and the neighbor is expected home in an hour. You start getting tight. WHAT SHOULD YOU DO?
   A. Rest, relax, drink warm liquids, take your medication if you have it with you. If you need to call for help, do so. Don't leave the baby alone. Don't leave the house.
4. You are riding your bike in a bike-a-thon for Jerry Lewis and MS. You are at a 5-mile checkpoint with 5 more miles to go. You are very tired and start to wheeze. WHAT SHOULD YOU DO?
   A. Sit and rest. Drink something. Take medication if you need to. Go more slowly, it is not a race. If necessary you may have to stop but you have done your best.
5. You are home alone for the first time while your parents are at the movies. You start coughing and get scared that you are about to have an attack. WHAT SHOULD YOU DO?
   A. Practice belly breathing or relaxation. Drink warm liquids. Remember the emergency numbers.
6. It's close to the end of the school year and you have a half day. You forget to tell your Mom it was a half day and the busses aren't running. It is only two miles to your house, so you decide to walk. Half way there, you begin to get tired and start feeling sick. WHAT SHOULD YOU DO?
   A. Be sure you are not running. If you need to, knock on a neighbors door to use the phone or find a phone booth to call your Mom. See if you can get some help if you need to. If you are doing ok just go slowly. If you have medicine with you, take it.
7. You have done everything that you know you are supposed to do to take care of an asthma attack, but you still feel bad. Your parents are out of town for the weekend, and your older cousin is staying with you. She doesn't know what to do to help you. WHAT SHOULD YOU DO?
   A. Call the doctor. Go to the hospital. Call an ambulance. Get help.

EMERGENCY SHEET

My Doctor's Name _____ Phone Number _____

My Hospital Name _____ Phone Number _____

My Mother's work hours: _____ Phone Number _____

My Father's work hours: _____ Phone Number _____

Who else to call 1. _____ Relationship 1. _____

in case of need: 2. _____ to me: 2. _____

Medications I Take

Name	Dosage	Times Taken

"As Needed" Medications and Instructions (Include Meds Taken Before Exercise)

Name	Instructions

My Allergies and What Happens When I Am Exposed

_____

_____

_____

If I Am Wheezing Slightly:

1. I drink fluids
2. I rest and relax
3. I take prescribed medication: (Name) _____

   (Dose) _____ (Instructions) _____
4. If no change in _____ minutes, call _____ parents or other _____
   (To be filled in by parents)
5. Other special instructions _____

Danger Signs:

_____

_____

_____

General Information:

When I need to go to the doctor or hospital: _____

_____

Other: _____

_____

_____

The Marvin Marvelous Game is an original board game that enables the children to:

- learn factual knowledge about asthma,
- rehearse potential problem situations with asthma, and
- have fun!

The game board is a colorful path that winds through imaginary scenery to Gertie Grunt's garden, past the Edema Demon, around the Bronchial Tree, and ends at the Ball Park. Players start at Marvin Marvelous' house. Each player in turn picks a pink rhyming card that instructs the player how many spaces to move on the board. The card may also instruct the player to pick a yellow card. Yellow cards are either Question cards or Pretend (situation) cards. When the question or situation is answered satisfactorily, the player rolls the dice to determine how many spaces to move ahead. If the answer is incorrect, the player remains at the same place. The game can be played by two to eight players. The ability to read the game cards, to count to twenty, and to answer questions about asthma is required of the players. If there are a few nonreaders in the group, they can be helped by the readers.

The yellow Question and Pretend cards can be used as a teaching tool. By selecting specific questions or situations from the collection of yellow cards, the game can be coordinated with the subjects covered in each session.

Examples of Question cards:

What are the names of the medicines you take for asthma?
When should you take your asthma medicines?
What is a bronchodilator?
Why should you rest when you have asthma?
What are your early warning signs of asthma?
What are the two big tubes in the lungs called?
What should you do when you start to wheeze?

Examples of Pretend cards:

You want to join the gymnastics team. The coach doesn't think that you should because he says you might wheeze. WHAT SHOULD YOU DO?

You are on a class tour of the museum. You start to wheeze. WHAT SHOULD YOU DO?

Your class is going on a nature walk today. It is spring, your worst allergy season. WHAT SHOULD YOU DO?

You start to wheeze as you are playing a game outside with some other kids. One kid that you don't know starts to tease you for being a sissy when you sit down to rest. WHAT SHOULD YOU DO?

The leader may act as referee and may make final judgments about the acceptability of answers to the yellow question and pretend cards.

Answers for pretend cards 22, 23, 24, 25, and 26 are contained in Dr. Q's Book of Tricks. However, the additional pretend cards do *not* have answers in Dr.

Q's Book. These were used in previous sessions as the early warning, triggers, and emergency situation cards. The leader should consult sample solutions in the leader background of sessions 4, 5, and 7 for examples of types of responses to accept. In general, answers showing that children know how to take care of their asthma and have spunk are encouraged.

How to Make the Marvin Marvelous Game

Copy the pretend and question card sheets onto yellow paper. Then cut out each card. Return the black and white masters to the teaching manual.

Copy the rhyming cards onto pink paper and cut out each card. Return the masters to the teaching manual.

Copy one game board and one Dr. Q's BOOK OF TRICKS for each game played.

You will also need two dice and eight markers (colored buttons can be used) and funny glasses for Dr. Q.

Preparing the Game Board from the Black and White Masters

Duplicate the masters of the game board and return the original pages to the teaching manual. Trim the copies, piece them together, and paste them onto a large cardboard or posterboard. The game board is approximately 18 × 18 inches. Have the children color the game board, if desired.

Preparing to Play

1. Choose DR. QUACKENBUSH. At the beginning of the game one player is selected to be Dr. Quackenbush. Dr. Quackenbush does not play in the game as a regular player, but functions as a judge. This kindly doctor is the judge of the answers to the yellow cards and also ensures that the play continues in an orderly fashion. Dr. Q uses *Dr. Q's Book of Tricks* to determine whether the answer or solution is satisfactory. The person who plays Dr. Q wears the glasses to show the role.
2. Place the PINK and YELLOW cards in separate piles, printed side down, where everyone can reach them.
3. Roll the dice to see who goes first. The player with the highest dice roll goes first, the order of play then moves in a clockwise fashion.

Goal

To advance from MARVIN'S HOUSE to BALLPARK. The first player to complete the path wins. An exact number of moves is *not* needed to enter the BALLPARK and win.

Starting the Play

Each player places a marker beside MARVIN, on START. The players, in turn, draw the top card from the PINK card pile and read it *aloud.* The marker is then moved as the card instructs. The used card is then placed in a discard pile which is shuffled and reused when the original pile is used up.

Using the Yellow Cards

A pink card may instruct the player to choose a YELLOW card. The player picks the top YELLOW card from the pile and reads the question or situation on it aloud. The player then must answer the question or situation. If the answer is satisfactory to Dr. Q, the dice are rolled to determine how far ahead the player may move. If the answer is unsatisfactory, the player remains on the same space as before the YELLOW card was taken. DOUBLES on the dice mean another roll of the dice is allowed.

INTRODUCTION TO THE MARVIN MARVELOUS GAME

MARVIN MARVELOUS is a 12-year-old boy who lives in Menominee Falls, Wisconsin. He is pictured at the start of the game in front of his log house in the country. He is on his way from his house to the BALLPARK.

He has many adventures along the way. Sometimes he has to stop and answer questions about asthma. He has asthma, but has learned how to take care of it.

His kindly doctor, DR. QUACKENBUSH, usually just known as Dr. Q, always seems to turn up to check on him to see if he has forgotten anything about how to take care of his asthma. But even the kindly doctor sometimes forgets and then he consults his BOOK OF TRICKS just to be sure.

BRUNO, MAXTURTLE, and OSCAR, the Oscarfish, are Marvin's friends who live down at Coffee Creek. Marvin goes down to Coffee Creek and visits with them when he gets lonely and just wants to get away for awhile.

THE PRICKLY PRECIPITANT PATCH waits to catch Marvin (and you when you play) with triggers. Precipitant is just a fancy work for triggers. The PRICKLY PRECIPITANT PATCH is a sticky, trickly, thorny patch waiting to snare the unaware!

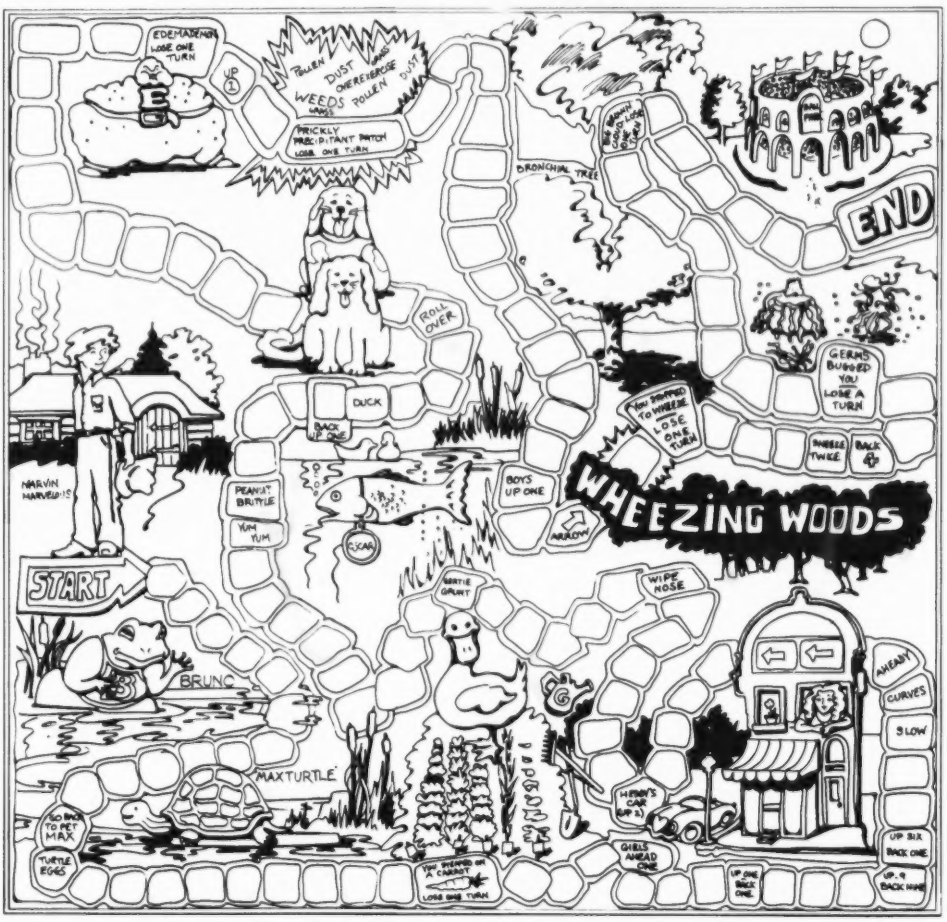
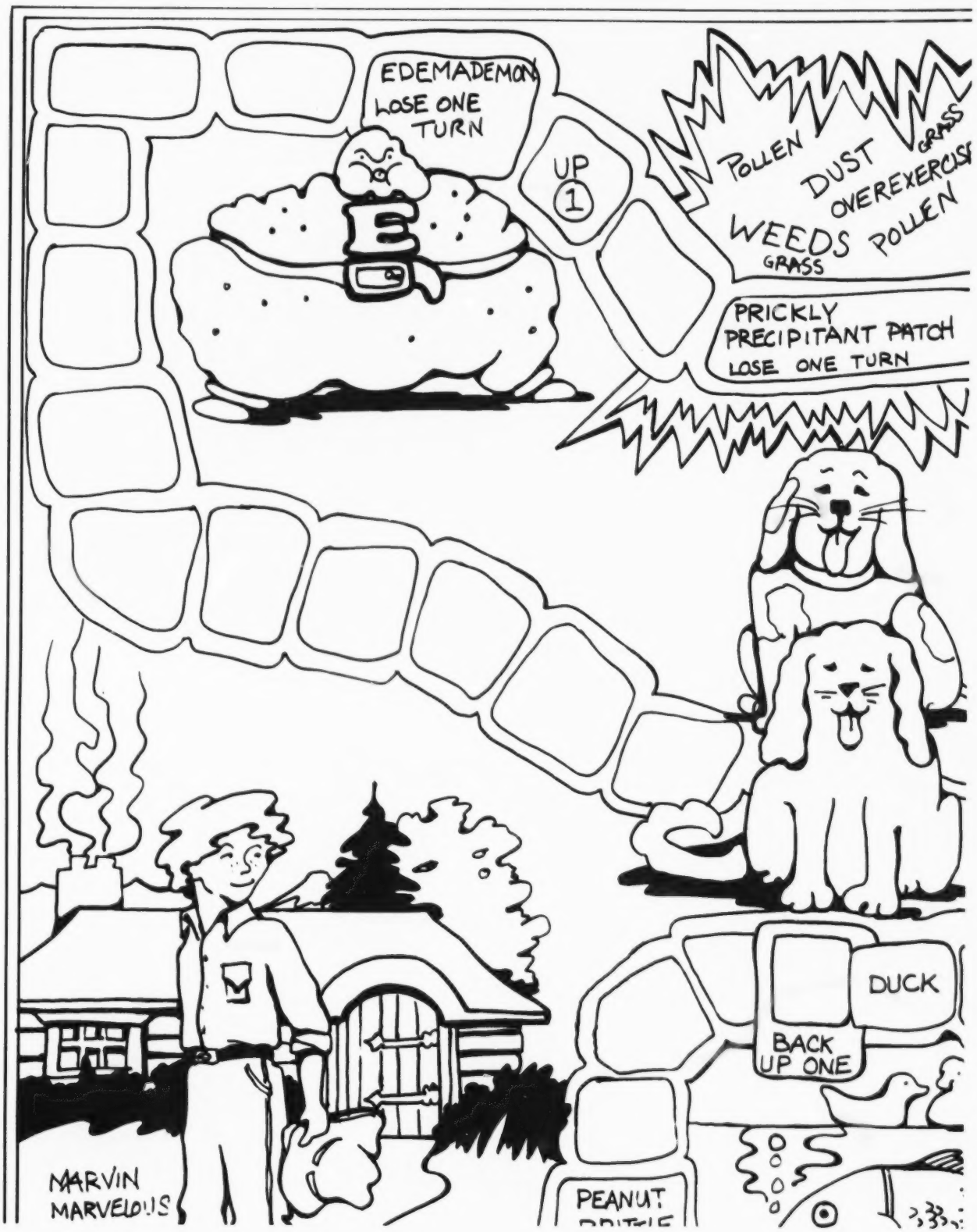
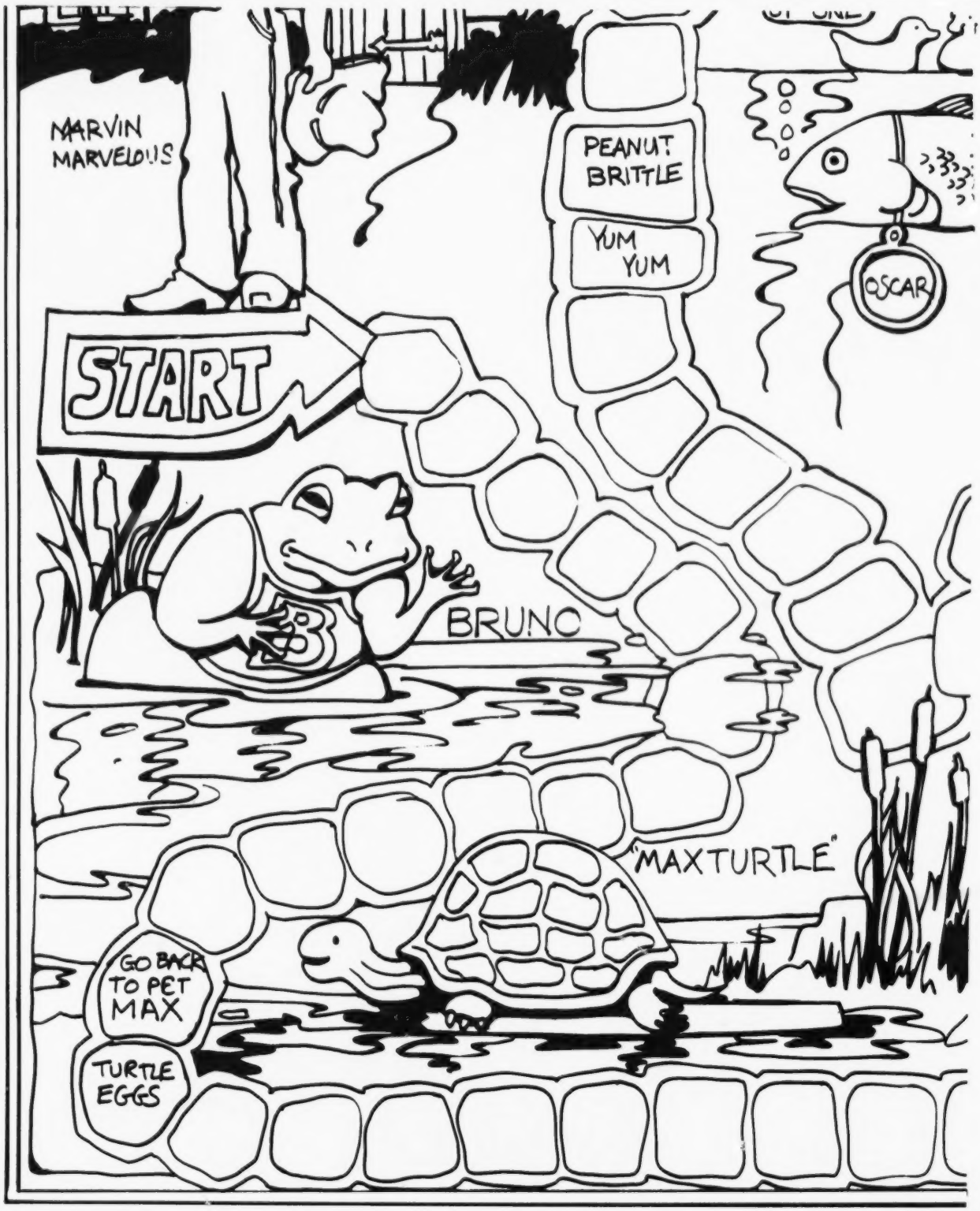


Figure 3. The Marvin Marvelous Game Board


EDEMADEMON
LOSE ONE TURN
UP 1
POLLEN
DUST
GRASS
OVEREXERCISE
WEEDS
POLLEN
GRASS
PRICKLY PRECIPITANT PATCH
LOSE ONE TURN
DUCK
BACK UP ONE
MARVIN MARVELOUS
PEANUT


MARVIN MARVELOUS
PEANUT BRITTLE
YUM YUM
OSCAR
START
BRUNO
"MAXTURTLE"
GO BACK TO PET MAX
TURTLE EGGS

POLLEN
DUST
GRASS
OVEREXERCISE
WEEDS
POLLEN
DUST
GRASS
PRICKLY
PRECIPITANT PATCH
LOSE ONE TURN
BRONCHIAL TREE
BIG BROWN
CLOUD-LOSE
ONE TURN
ROLL
OVER
DUCK
BACK
UP ONE
BOYS
UP ONE

BACK UP ONE
BOYS UP ONE
WHEE
ARROW
OSCAR
GERTIE GRUNT
WIF NO
AXTURTLE"
HEDDY'S CAR (UP 2)
GIRLS AHEAD ONE
YOU STEPPED ON A CARROT
LOSE ONE TURN

BIG BROWN CLOUD LOSE ONE TURN
CHIAL TREE
BALL PARK
END
GERMS BUGGED YOU
LOSE A TURN
YOU STOPPED TO WHEEZE
LOSE ONE TURN
SNEEZE TWICE
BACK 4

ONE TURN
SNEEZE TWICE
BACK 4
WHEEZING WOODS
ARROW
WIPE NOSE
AHEADY
CURVES
SLOW
HEDDY'S CAR (UP 2)
GIRLS AHEAD ONE
UP ONE BACK ONE
UP SIX BACK ONE
UP 9 BACK NINE

22

Your gym class is outside in the spring, jogging around the football field. You are getting tight and you still have to run around the field once more.

WHAT SHOULD YOU DO?

23

You get a phone call from a friend who asks you to spend a weekend in the mountains with his family. You really want to go and say yes. Then he says that his three dogs are going. Dogs bother your asthma.

WHAT SHOULD YOU DO?

24

You want to join an after school gymnastics club. Your mother doesn't think you should because of your asthma.

WHAT SHOULD YOU DO?

25

You are outside playing a game and you get tight. You sit down to rest and one of the kids says, "Ah, come on, you can't quit now, you sissy."

WHAT SHOULD YOU DO?

26

You are at your cousin's house watching T.V. Her father comes in and starts to smoke. Cigarettes bother your asthma.

WHAT SHOULD YOU DO?

ADDITIONAL PRETEND CARDS

You have been tired all day. You are planning to go to bed early tonight. Your best friend calls and asks you to come over and watch a movie. WHAT SHOULD YOU DO?	Your first karate class is in an hour. You realize that you have been sneezing alot. That is sometimes an early sign for you. WHAT SHOULD YOU DO?
You are in math class. You begin to feel funny and have an itchy throat. Those are some of your early signs. WHAT SHOULD YOU DO?	The guys need another player and you want to join. You run inside for your glove and notice that your throat is itchy. WHAT SHOULD YOU DO?
You are in history class watching a movie. You begin to wheeze. WHAT SHOULD YOU DO?	You are on a picnic in the park with your class. There is a softball game and you want to play. The teacher says you can't because you might get sick. WHAT SHOULD YOU DO?
Your class is going on an all day picnic and nature walk today. You really want to go. You wake up with a slight cold. Your mother looks at you at breakfast and says, "I really don't think that you should go today." WHAT SHOULD YOU DO?	You are downtown shopping, and start to get tight. You are with your friends. You realize that you don't have any medicine with you. WHAT SHOULD YOU DO?

Your best friend asks you to come over and watch the Bronco game with her and her family. You want to go, but then she tells you that her whole family has bad colds. Your asthma is triggered by colds and infections. WHAT SHOULD YOU DO?	You are camping with your aunt and uncle. You realize that you are getting tight. When you reach for your medicine you put in your pack, you can't find it. WHAT SHOULD YOU DO?
Your teacher announces that your class is going to the stock show. Last year you went and petted all the animals in the petting section. Later you got a bad attack. You have to try and convince your mother that you can go this year and not get as sick as you did last year. WHAT SHOULD YOU DO?	You are babysitting for a neighbor who has a small baby. The baby is asleep and the neighbor is expected home in an hour. You start getting tight. WHAT SHOULD YOU DO?
You are riding your bike in a bike-a-thon for MS. You are at a 5 mile checkpoint. You are very tired and starting to wheeze. WHAT SHOULD YOU DO?	You are home alone for the first time while your parents are at the movies. You start coughing alot and get scared that you are about to have an attack. WHAT SHOULD YOU DO?
It's close to the end of school and you have a half day. You forgot to tell your Mom that the busses aren't running. It is only 2 miles to your house, so you decide to walk. Half way there, you begin to get tired, and start feeling sick. WHAT SHOULD YOU DO?	You've done everything you know you are supposed to do to take care of an attack, but you still feel bad. Your parents are out of town for the weekend and your older cousin is staying with you. She doesn't know what to do to help you. WHAT SHOULD YOU DO?

QUESTION CARDS

1 What is asthma?	**5** What things can you do to keep breathing problems from getting worse?
2 What can you do to stay healthy?	**6** What should you do when you have breathing problems?
3 What can you do to prevent breathing problems?	**7** What are early warning signs of asthma?
4 What happens inside your lungs when you have breathing problems?	**8** Name two things that are early warning signs for you.

QUESTION CARDS (continued)

9 What should you do when you notice an early warning sign?	**13** When should you take your asthma medicine?
10 What are the names of the asthma medicines you take?	**14** What is a trigger?
11 How do asthma medicines help your asthma?	**15** Name two things that are triggers for you.
12 What is important to remember about your asthma medicine?	**16** If you are playing outside and start to wheeze, what should you do?

QUESTION CARDS (continued)

17 If you need help fast, what should you do?	**21** Why is it important to know your early signs?
18 What should you do when you get asthma in school?	**27** What happens to the mucus in your lungs when you have asthma?
19 Why should you drink warm liquid when you have breathing problems?	**28** What are the names of the two big tubes in the lungs?
20 Why do you need to rest when you have breathing problems?	**29** What are the smallest tubes in the lungs?

QUESTION CARDS (continued)

30 What are the tiny hairs in the lungs called?	**34** What are the small air sacs in the lungs called?
31 What happens to the muscles wrapped around your bronchial tubes when you have breathing problems?	**35** What does smoking do to your lungs?
32 What is the name of the gas that we breathe in?	**36** What effect does smoking have on theophylline-type medicines?
33 What is the name of the gas that we breathe out?	**37** What do the cilia in your lungs do?

38 What is an allergen?	**42** How can nebulizers be dangerous?
39 What is a bronchodilator?	**43** What is a skin test?
40 What is a nebulizer? (also called whiffers, puffers, etc.)	**44** What is belly breathing? (diaphragmatic breathing)
41 If you start getting upset when you can't breathe, what can you say or do to help yourself calm down?	

2 spaces Only 2 steps, that's not fair, But it's better than just standing there.	**3 spaces** The edema demon is on your tail, Take 3 steps down the trail.
−5 spaces You forgot to take your med, Move 5 steps back, not ahead.	**10 spaces** I know that you take it and take it on time, Move 10 steps and remember this rhyme.
3 spaces You know what's best, So you stopped to rest. Now move ahead 3 steps.	**9 spaces** Oscar the fish, says with a swish, Take a big jump, nine in a lump.
−1 space Marvin didn't drink much today, Move back one, I'm sorry to say.	**1 space** Just one step, that's all for you, It's not much, but it'll do.

RHYMING CARDS (continued)

Marvin loses a turn and Goes back 10 spaces or Goes to wipe his nose.	Marvin loses or a turn or Goes to Peanut Brittle
3 spaces Marvin moves 3 steps with this card, This game really isn't very hard.	**4 spaces** A good meal you did eat, Move 4 steps, what a treat.
The edema demon is rolling your way! Quick, take a yellow card and don't delay.	Back up 10 spaces and lose one turn, or Go visit the edema demon for one turn.
20 spaces Rest and relax, You have learned. 20 big steps you have earned.	Oscar the Oscarfish says: Take a yellow card.

RHYMING CARDS (continued)

Relax your mind, relax your guard, Relax and take a yellow card.	**10 spaces** You take your medicine twice a day, Take ten giant steps along the way.
Big brown cloud up ahead, You lose this turn and stay in bed.	**5 spaces** Over the hill and through the wood, Take 5 steps, isn't that good.
10 spaces Eat good food so you're not starvin', Take 10 steps to help out Marvin.	**2 spaces** 2 steps, that's the name of the game, As Marvin moves to fortune and fame.
4 spaces Bruno the bull frog says croak, croak, croak, Take 4 steps, that's no joke.	**−3 spaces** You're wheezing, but you still play, Move 3 steps back, and don't delay.

RHYMING CARDS (continued)

10 spaces You're really in a hurry, Ten spaces you may scurry.	Ruffles and Raffles say with a bark, Come roll over with us for a lark.
10 spaces You really have done well today, Move ten spaces along the way.	Ruffles wishes Marvin well, Take 5 steps, gee that's swell.
– 2 spaces Your medicine you forgot, Move back 2, that's not a lot.	**8 spaces** You slept 10 hours in your bed, Move Marvin 8 steps ahead.
6 spaces Randolph Marvelous, Marvin's dad, Says take six steps, that's not so bad.	**7 spaces** Don't be a grump, Please help Marvin jump. Take a yellow card.

RHYMING CARDS (continued)

Heddy La Marvelous says with a smile, Take a card from the yellow card pile.	It ought to be against the law, But a yellow card you must draw.
15 spaces Fifteen steps, that's quite a lot, You're giving this game all you've got.	**4 spaces** Gertie Grunt says with a quack, Move 4, don't give me no flack!
20 spaces With this card you move 20 spaces, Look at all the smiling faces.	**4 spaces** One step, two steps, three steps, four, I'm sorry, but you don't get any more.
Yellow is the color of the card you must draw.	A yellow card you must take, For your next move to make.

Take a card, a yellow one, Isn't this game a lot of fun?	**11 spaces** Twinkle, twinkle, little star, 11 steps, isn't that far.
3 spaces You did not rest when you were wheezing; So move back 3, which is not pleasing.	**10 spaces** Stop and think, take a drink Move ten steps, quick as a wink.
10 spaces You eat good food every day, Move 10 steps along the way.	**1 space** With this card you will know, Just one step you may go.
Take a yellow card, and take it now, What else can you do, anyhow?	**7 spaces** Here's 7 steps from nice Aunt Heddy, Move them now, if you're ready.

Marvin's really on the right track, Take a card from the yellow stack.	Woe is me, back I must flee, 10 spaces, and lose one turn, or visit Gertie Grunt.
20 spaces You really have done well this week, With 20 steps you move like a streak.	**10 spaces** Hear the cheers grow clearer, The ballpark is 10 steps nearer.
10 spaces 10 steps and you're on your way Isn't this a wonderful day?	**1 space** It sure is hard to win the race, When you move ahead just 1 space.
2 spaces This is really rotten, 2 steps is all you've gotten.	**1 space** Here's a card, here's a jingle, Take a step that's just a single.

5 spaces

You're doing just fine,
Take 5 steps down the line.

7 spaces

Aunt Heddy takes you down the road,
Seven steps will lighten the load.

A piece of pie, a piece of cake,
A yellow card you must take.

DR. Q's BOOK OF TRICKS

or

"More than You Ever Wanted to Know about Asthma"

Herein lies the knowledge needed for answering the YELLOW CARDS in the MARVIN MARVELOUS GAME. The person in possession of this book is now the proud possessor of the EXACT SAME KNOWLEDGE as the famous DR. Q. Use this knowledge wisely in your role of Dr. Q. He's counting on you!

MORE THAN YOU EVER WANTED TO KNOW ABOUT ASTHMA

Right here before your very eyes.

Questions that are starred (*) will vary with the individual players. The player should answer according to his or her own medications, triggers, early signs, etc.

1. What is asthma?

   Asthma is an illness where lungs sometimes tighten up and make it hard to breathe.

2. What can you do to stay healthy?
   1. Get enough sleep.
   2. Eat healthy food.
   3. Get regular physical exercise.
   4. Drink lots of liquids.
   5. If you take regular prescribed medicine, TAKE IT AND TAKE IT ON TIME.

3. What can you do to prevent breathing problems?
   1. Stay healthy.
   2. Take any medicine the doctor prescribes: TAKE IT AND TAKE IT ON TIME.
   3. Pay attention to your early warning signs.
   4. When you do notice an early warning sign, rest, relax, drink warm liquids.

4. What happens inside your lungs when you have breathing problems?
   1. The thin muscles wrapped around the air tubes inside the lungs tighten up. (Fancy name: bronchoconstriction.)
   2. The insides of the air tubes swell up. (Fancy name: edema.)
   3. Mucus inside the air tubes gets thicker and plugs up the airways.

5. What things can you do to keep breathing problems from getting worse?
   1. Drink warm liquids.
   2. Rest and relax.
   3. Take any medicine that has been prescribed for breathing problems.

6. What should you do when you have breathing problems?
   1. Rest and relax.
   2. Drink fluids, preferably warm.
   3. Let an adult know you're having problems.
   4. Take medicine if so prescribed.
   5. Do diaphragmatic or "belly" breathing.

7. What are early warning signs of asthma?

   Early warning signs are the ways you feel before you start to wheeze or have an asthma attack. They are messages our bodies give us that an attack is coming. They are the very beginning of breathing problems.

8. Name two things that are early warning signs for you.

   Common early warning signs include: coughing, feeling tired, itchy or scratchy throat, tight chest, shortness of breath, feeling spacey. There are many other early signs too.

9. What should you do when you notice an early warning sign?
   1. Rest and relax.
   2. Drink fluid, preferably warm.
   3. Do diaphragmatic or "belly" breathing if you know how.

* 10. What are the names of the asthma medicines you take?
   Common medicines include: aminophylline, Marax, Alupent, Somophyllin, Choledyl, Quibron, Intal, Aarane, Bronkosol, prednisone, Vanceril, Theodur, theophylline, Slo-Phyllin, Isuprel, and others.

11. How do asthma medicines help your asthma?
   Most help by letting the airways relax. Some help reduce the swelling in the airways.

12. What is important to remember about your medicines?
   To take it exactly as the doctor has told you. "Take it and take it on time," as Dr. Q always says.

* 13. When should you take your asthma medicine?
   The player should be able to state the time or circumstances to take his or her asthma medicines.

14. What is a trigger?
   Something that causes you to have asthma when you are around it.

* 15. Name two things that are triggers for you.
   Common triggers include: cats, horses, dogs, colds and infections, running or exercising very hard, smoke, mold, pollens, grasses, trees, getting very upset or excited, weather changes.

16. If you are playing outside and start to wheeze, what should you do?
   Go inside and get something warm to drink, stop playing and rest and relax, do breathing exercises if you know how.

17. If you need help fast, what should you do?
   Tell an adult that you need help and what is wrong.

18. What should you do when you get asthma in school?
   Let an adult know you are having trouble. Get some warm liquid to drink. Take any medicine that the doctor has said you are to use for attacks. Do belly breathing or diaphragmatic breathing if you know how.

19. Why should you drink warm liquid when you have breathing problems?
   1. To replace the water that is lost when you have breathing problems.
   2. Liquids help to thin the mucus.
   3. Warmth helps your airways relax.

20. Why do you need to rest when you have breathing problems?
   Resting helps your lungs rest and not have to work as hard.

21. Why is it important to know your early warning signs?
   So you can take some action to keep your breathing from getting worse.

PRETEND CARDS have many possible solutions. Dr. Q accepts solutions that show the players know how to take care of their own asthma and have spunk!

22. A PRETEND CARD

    It would be best to stop for awhile to give your lungs time to rest. If you remain tight, it would be best to tell your teacher you are having trouble and cannot run anymore. Later, let your parents know that you had trouble. Maybe your doctor could prescribe medicine for you to use before you go to gym.

23. A PRETEND CARD

    You need to make some decision about what to do about the dogs. Ask if they are outside or inside dogs. If they are outside dogs, they may not bother you much; you must make the decision. Ask if they can be left at home, explaining that dogs bother your asthma. If they can't, explain that you can't go this time. If dogs bother you only a little, ask your parents if you can use some medicine before you go (preventive medicine). Do not pet the dogs, or wash your hands afterwards if you do pet them.

24. A PRETEND CARD

    You can try to convince your mother that you will never know what you can do if you don't try. Let her know that you know how to take care of yourself if you do start to have trouble breathing. Tell her you know what your early warning signs are and that you will stop if you notice them happening.

25. A PRETEND CARD

    First, don't feel bad about taking care of your asthma. Say, "Yeah, for me!!!" Then tell him that you have asthma and that it makes it hard for you to breathe sometimes. It gets better if you just rest for awhile. If he keeps bugging you, just ignore him (sometimes that's very hard to do, but try anyway). Eventually he'll get tired of hassling you.

26. A PRETEND CARD

    You could say that smoking bothers your asthma. You could tell your uncle that you have to leave because smoking makes it hard for you to breathe. You may have to leave the room.

27. What happens to the mucus in your lungs when you have asthma?

    It gets thicker and stickier.

28. What are the names of the two big tubes in the lungs?

    Bronchial tubes.

29. What are the smallest tubes in the lungs called?;

    Bronchioles.

30. What are the tiny hairs in the lungs called?

    Cilia.

31. What happens to the muscles wrapped around your bronchial tubes when you have breathing problems?

    They get tighter and squeeze the tubes.

32. What is the name of the gas that we breathe in?

    Oxygen.

33. What is the name of the gas that we breathe out?

    Carbon dioxide.

34. What are the small air sacs in the lungs called?
    Aveoli.
35. What does smoking do to your lungs?
    It destroys the cilia and makes the alveoli lose their elasticity.
36. What effect does smoking have on theophylline-type medicines?
    Smoking causes you to need more.
37. What do the cilia in your lungs do?
    They help keep the dust and dirt out of your lungs.
38. What is an allergen?
    A thing that you are allergic to.
39. What is a bronchodilator?
    A medicine that helps your airways stay open.
40. What is a nebulizer? Also called whiffers, puffers, etc.
    Another name for medicine that you breathe into your lungs when you are having trouble breathing.
41. If you start getting upset when you can't breathe, what can you say or do to help yourself calm down?
    1. Do belly breathing.
    2. Do relaxation exercises if you know how.
    3. Have a talk with yourself. Tell yourself that you know what to do to help yourself, get something warm to drink, and settle down. Tell yourself that it takes time to feel better.
42. How can nebulizers be dangerous?
    Using a nebulizer too many times in too short a space of time can cause you to get even tighter. Follow the doctor's directions carefully.
43. What is a skin test?
    A skin test is a test the doctor may use to find out what you are allergic to. She/he will make small scratches on your arm and drop liquid on the scratches. If the scratches get red and bumpy, you are allergic to whatever was in the liquid.
44. What is belly breathing? Diaphragmatic breathing?
    It is a way of breathing that uses the diaphragm to help the lungs get air in. The belly is stuck out when breath is taken in; the belly is pulled in when the air is let out. The lips are pursed to let the air out slowly.

ASTHMA REPORT FORM

		Mon	Tue	Wed	Thur	Fri	Sat	Sun
I had trouble breathing today.	Yes							
	No							
I practiced my belly breathing today.	Yes							
	No							

Today _____ I had trouble breathing while I was _____
Date What were you doing?

These were the signs of asthma that I observed: _____
How did you feel?

To help my asthma get better I _____
What did you do to help your breathing?

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

Today _____ I had trouble breathing while I was _____

These were the signs of asthma that I observed: _____

To help my asthma get better I _____

SPECIAL EDITION

TAKING CARE OF YOUR ASTHMA

DR. Q's NEWS

PUBLISHED WHENEVER I FEEL LIKE IT IN MENOMINEE FALLS, WISCONSIN

PRICE

LESS

ME, M.D.

Taking care of your asthma means learning how to control it, so you do not get asthma as much.

The doctor (someone like me) can help you get it under control by prescribing medicine for you to take and sometimes by helping you discover what some of your triggers are.

Taking care of my asthma means learning how to _____it. If I learn how to take care of my asthma, I will not have _____ as much.

Two ways my Dr. may help me get my asthma under control is by (1) _____ medicine, and (2) helping me discover what some of my _____are.

Your doctor and your family can help you learn how to take care of your asthma, but the main job is up to ***you.*** One part of the job is trying to stay as healthy as you can. The other part is to help ***yourself*** when you do have an attack.

It is mainly up to _____to take care of my asthma. One part of my job is to keep myself as _____as possible. I also need to know how to _____ myself when I do have an attack.

FINAL EDITION

TAKING CARE OF YOUR ASTHMA

DR. Q's NEWS

PUBLISHED NOW ON THIS TOPIC OF TIMELY INTEREST

PRICE

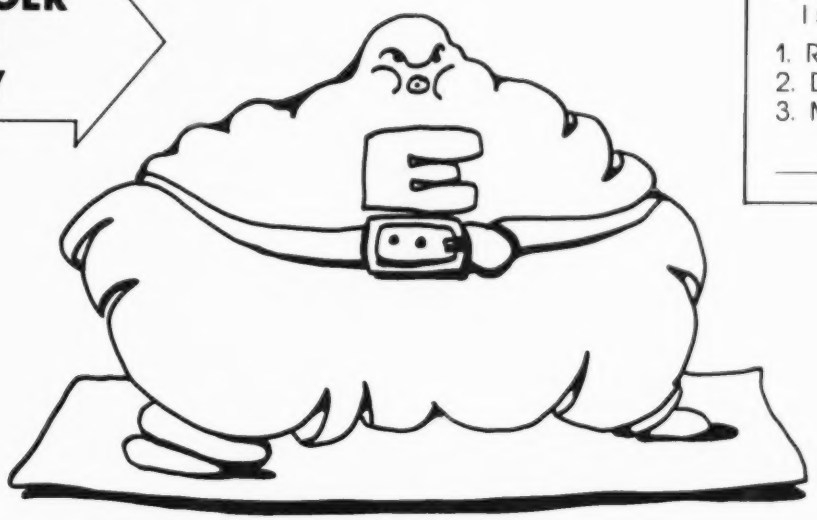
LESS

To help yourself not have many asthma attacks, you need to stay healthy. To stay healthy everyone needs to (1) eat good food and (2) get enough sleep, (3) and exercise. People with asthma need to stay as healthy as they can by doing all these things. They (you!) need to (4) stay away from their triggers, and (5) take any medicine the doctor prescribes exactly as he prescribes it.

To help myself not have many asthma attacks, I need to stay _____.
Three important things to do to stay healthy are:
(1) _____
good food, and (2) get enough _____
and (3) _____.

I also need to _____
from my triggers. It is important to take any _____exactly as the doctor tells me to.

DANGER KEEP AWAY



DR. Q'S Quiz

For an attack I should:

1. R _____ and _____
2. D _____
3. Maybe take some _____

THE EDEMA DEMON

EMERGENCY SHEET

My Doctor's Name _____ Phone Number _____

My Hospital Name _____ Phone Number _____

My Mother's work hours: _____ Phone Number _____

My Father's work hours: _____ Phone Number _____

Who else to call 1. _____ Relationship 1. _____

in case of need: 2. _____ to me: 2. _____

Medications I Take

Name	*Dosage*	*Times Taken*

"As Needed" Medications and Instructions (Include Meds Taken Before Exercise)

Name	*Instructions*

My Allergies and What Happens When I am Exposed

If I am Wheezing Slightly:

1. I drink fluids
2. I rest and relax
3. I take prescribed medication: (Name)_____

   (Dose)_____(Instructions)_____
4. If no change in _____minutes, call _____parents or other_____
   (To be filled in by parents)
5. Other special instructions_____

Danger Signs:

General Information:

When I need to go to the doctor or hospital:_____

Other:_____

SUMMARY OF ASTHMA ATTACK **MANAGEMENT** AND **CONTROL**

I. BE AWARE
II. BEWARE
III. CAUTION

I. BE AWARE

Between Attacks

You can help prevent attacks by:

- Avoiding known asthma triggers such as allergens, irritants like cigarette smoke, infections, weather, emotions, etc., as much as possible.
- Practicing breathing exercises.
- Knowing your limits for physical activities.
- Drinking plenty of liquids, preferably warm.
- Taking medication as prescribed by the physician.
- Following good general health practices: getting adequate sleep, eating properly, exercising regularly.

You can prevent future attacks from becoming serious by:

- Analyzing the management of previous attacks.
  What corrective measures worked?
  What corrective measures didn't work?

II. BEWARE

of Early Warning Indicators

You can prevent an oncoming attack from getting worse by:

- Recognizing early warning indicators:
  Physical Symptoms such as: coughing, tightness in chest, decreased exercise tolerance, feeling tired, itchy throat, watery eyes, feverish, dry mouth, clammy skin, facial color change, sore throat, scratchy throat, heart beats faster, head plugged up, stroking of chin or throat.
  Emotional Symptoms such as: feeling spacey, getting upset easily, feeling nervous, feeling grumpy, feeling restless.
- Following attack management steps—resting and drinking liquids (preferably warm) if early warning indicators are experienced.
- Remembering that most attacks come on gradually and the measures taken early may be very helpful in preventing a full-blown attack.
- Using belly breathing and progressive muscle relaxation to help to gain control.

III. CAUTION

During an Attack

You can reduce the severity of breathing problems by:

- Continuing to rest and relax.
- Using belly breathing and progressive muscle relaxation if they help.
- Taking medication prescribed for attacks.
- Continuing to drink plenty of liquids, preferably warm liquids.

CHILDREN'S SESSION EIGHT
REVIEW AND FAREWELL

GOALS

- To summarize and review the self-management messages
- To encourage the children to continue self-management practices after the sessions are over

RESOURCES

Leader Background Material:
Marvin Marvelous Game (from session 7)

Handouts:
Quiz
Attitude Survey
Marvin Medals

ACTIVITY LIST

Concept	Main Activities	Alternate Activities
Welcome		
Final Message	Importance of Marvin's Motto Discussion of What Children Can Do to Continue to Take Care of Their Asthma	
Review		Discussion: Asthma Physiology Attack Management Medications Early Warning Signs Triggers
Closing Activities	Marvin Marvelous Game Quiz Attitude Survey Awarding of Marvin Medals	
Reminders	Marvin's Motto Fond Farewells	

CHILDREN'S SESSION EIGHT

REVIEW AND FAREWELL—TEACHING NOTES

Welcome

Did anyone have trouble breathing this week? What happened? What did you do?

- **Allow Responses.**

How many remembered to fill out your forms?

- **Wait for show of hands or verbal response.**

Let's look at them.

- **Spend a brief time looking at each child's form.**

Did any of you try a different way to help your breathing get better?

- **Allow everyone to participate in discussion.**

Can everyone remember Marvin's motto?

- **Have everyone recite Marvin's motto by heart.**

What do you think it means?

- **Have the group members explain its meaning.**

Discussion: Marvin's Concern

You know, I was talking to Marvin yesterday and he said it sure sounded like you all had learned a lot during these sessions. But he also was a little worried. He knows that you all learned his motto by heart and that you know how to take care of your asthma on your own. What he got to worrying about was that you might forget all this good stuff that you learned here once you weren't coming here every week. I told him that I couldn't really say. I sure hoped that you wouldn't forget it all. What do you think I can tell him about that? Do you have any messages that I can give him to reassure him that you will keep taking care of your asthma like you have been doing?

- **Have a discussion so that the children can talk about the things they can continue to do to take care of their asthma.**

Overall Review:

Review any concepts or informational points you feel necessary:

Asthma Physiology
Attack Management
Medications
Early Warning Signs
Triggers

Activities:

Marvin Marvelous Game

Play the MARVIN MARVELOUS GAME to review and reinforce self-management messages.

Quiz

Hand out quiz.

Before we join all the parents for our farewell party, I'd like you to answer the questions on this quiz. It will help me find out how much you've learned during the past 8 weeks about managing your asthma.

Allow time to complete quiz.

Now I'd like you to help me by answering the questions on this survey to show me how you now feel about your asthma.

Attitude Survey

Pass out survey.

Allow time to complete.

Please tell me how you feel about the statements on the next two pages by picking the answer that you think is best for each statement. If the statement is true about you, put a check (√) in the box marked TRUE. If the statement is mostly true about you put a check (√) in the box marked MOSTLY TRUE. If the statement is sometimes true and sometimes false, check the box marked SOMETIMES TRUE AND SOMETIMES FALSE. If you think the statement is mostly false, check the box marked MOSTLY FALSE. And, if you think the statement is false, put a check in the box marked FALSE. Answer all of the questions, even if it is hard to choose. There are no right or wrong answers. Only you know how you feel, so please mark the way you really feel inside.

Marvin Medals

Marvin asked me to give each of you a medal to show that you've completed our asthma self-management course.

Call each child to the front of the room and award Marvin medals with appropriate ceremony.

Farewell and Reminders

It's time to go to the farewell party with your Moms and Dads.

Don't forget Marvin's Motto.

Practice your belly breathing every day.

Remember that you now know lots about managing your asthma on your own.

Good luck and goodbye.

ASTHMA QUIZ

TRUE/FALSE. Write a "T" after each sentence that is true, and an "F" after each sentence that is false.

1. There are things that you can do to keep an asthma attack from getting worse._____
2. Everyone gets over asthma as they get older._____
3. People with asthma cannot be good at sports._____
4. Getting upset can make an asthma attack worse._____
5. Coughing may be an early sign of an asthma attack._____
6. Taking some medicine before you run may keep you from wheezing._____
7. During an asthma attack the muscles around the airways get looser._____

FILL in the blanks.

The names of the medicines you take for asthma are: 1. _____

2. _____

3. _____

Some of the things that cause you to wheeze or cough from asthma (your triggers) are:

1. _____ 3. _____

2. _____ 4. _____

PUT a check mark next to all of the things that you should do when you have trouble breathing from asthma.

_____hold your breath

_____drink lots of liquids

_____yell for help

_____don't do anything and it will get better on its own

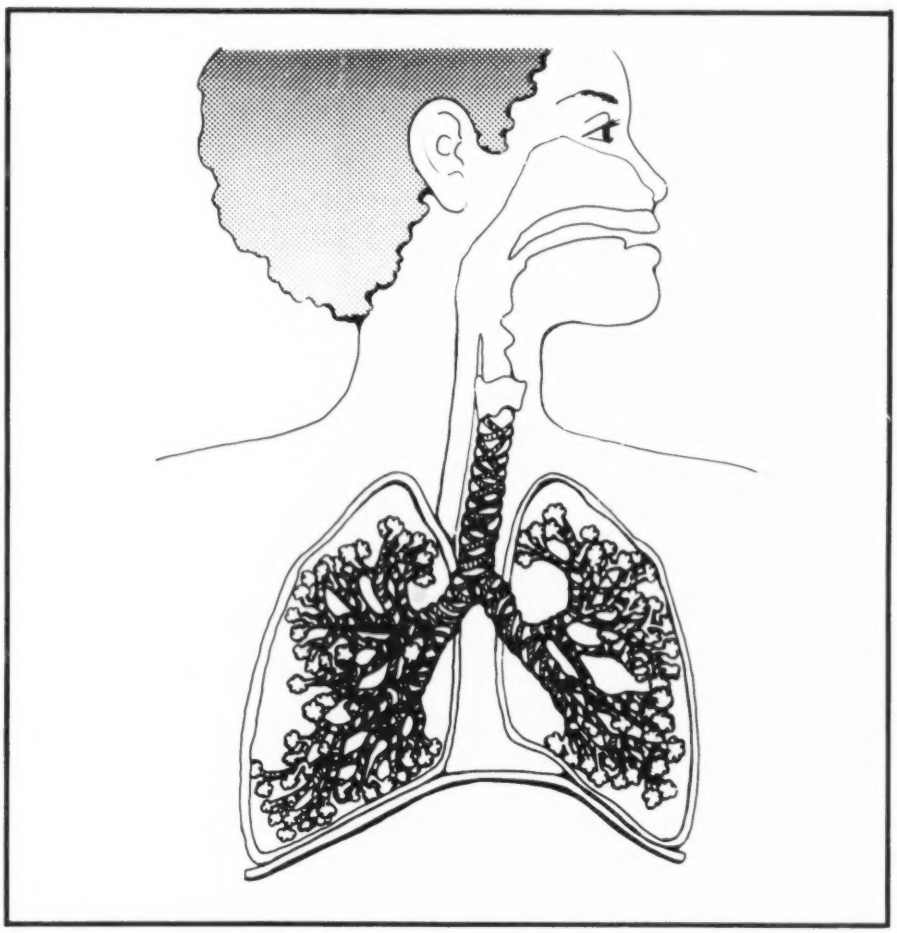
_____rest

_____take medicine if the doctor has prescribed some for breathing problems

_____run home

_____do breathing exercises

LABEL the parts of the breathing system.
You may need these words: lungs, diaphragm, bronchial tubes, windpipe



ATTITUDE SURVEY

Name _____

Date _____

Administrator _____

Directions:

Please tell us how you feel about the statements on the next 2 pages by picking the answer that you think is best for each statement. If the statement is true of you put a check (√) in the box marked TRUE. If the statement is mostly true of you put a check in the box marked MOSTLY TRUE. If the statement is sometimes true and sometimes false, check the box marked SOMETIMES TRUE AND SOMETIMES FALSE. If you think the statement is mostly false, check the box marked MOSTLY FALSE. And, if you think the statement is false, put a check (√) in the box marked FALSE. Answer all of the questions, even if it is hard to choose. There are no right or wrong answers. Only you know how you feel, so please mark the way you really feel inside.

	False	Mostly False	Sometimes True and Sometimes False	Mostly True	True
• I have good friends.					
• I can play hard if I'm careful.					
• No matter what I do, my asthma never gets better.					
• Asthma makes my life miserable.					
• I can help my asthma by eating healthy food.					
• I can do just about everything that I want to do.					
• I can't do well in school because of my asthma.					
• I need someone to watch over me almost all the time.					
• I drink lots of water to help my asthma.					
• I like myself.					
• I get really scared when I have an attack.					
• I don't want other kids to know I have asthma.					
• I make my asthma seem worse than it is.					
• When the air is really polluted, I stay indoors as much as I can.					

	False	Mostly False	Sometimes True and Sometimes False	Mostly True	True
• I'm like other kids, except I have asthma.					
• If I could just take more medicine, I'd be OK.					
• People don't like me because I have asthma.					
• When I meet someone I tell them that I have asthma.					
• I try to be as calm as I can during an asthma attack.					
• I am a happy person.					
• I help my asthma by not getting too tired.					
• I play a lot with kids my own age.					
• I feel OK asking for help with my asthma when I need it.					
• I do things that I know will make me have an asthma attack.					
• I am not a good person because I have asthma.					
• There are a lot of times I can handle my asthma myself.					
• I worry a lot about my asthma.					
• There are things I can do to help my asthma.					

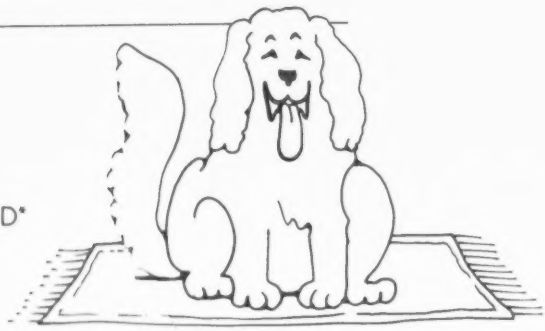
MARVIN MEDAL

PRESENTED TO:

_____

ON:_____

*THINK, DRINK
BE CALM, TELL MOM,
MAYBE A MED, MAYBE TO BED*



This medal is presented only to participants in the Asthma Self-Management Program for learning and following Marvin's Mottos. Authorized presentation made only by an official agent of Marvin Marvelous,

_____.
signature of official agent

TAKE IT AND TAKE IT ON TIME

DISCRIMINATION PROHIBITED: Under provisions of applicable public laws enacted by Congress since 1964, no person in the United States shall, on the grounds of race, color, national origin, handicap, or age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity (or on the basis of sex, with respect to any education program or activity) receiving Federal financial assistance. In addition, Executive Order 11141 prohibits discrimination on the basis of age by contractors and subcontractors in the performance of Federal contracts, and Executive Order 11246 states that no federally funded contractor may discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Therefore, the National Heart, Lung, and Blood Institute must be operated in compliance with these laws and Executive Orders.